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Multiplexing Commercial Units.. *Pg. 20*

AIR CONDITIONING HEATING & REFRIGERATION **NEWS**

The Newspaper of the Industry

RESIDENTIAL — COMMERCIAL — INDUSTRIAL

February 22, 1960

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Inside Dope

By GEORGE F. TAUBENECK

Learn to live and laugh — thus delay your epitaph

Service Is Personal
Intercepted Staff Memo
Classic Boners
Dead Pan Englishmen
Dirty Bird
Lady Chatterley's Lover From Trade Paper Angle
Australia 'Gets With It'

Service Is Personal

What are the respective merits and demerits of centralized (factory-managed) service? How well do contractor-dealer, and independent, service organizations function in comparison, especially in terms of customer satisfaction?

AND CUSTOMER SATISFACTION IS THE "POINT" OF ALL SERVICE ACTIVITIES.

Recently the "Dope" household encountered what it deemed to be a cockeyed service charge by a centralized service outfit. So we "took it to court."

In this case, "court" turned out to be pleasant Harry Gensler, manager of G-E product service for the Detroit area. Gensler examined the record and conceded an adjustment.

Also, it turns out, he runs a whale of an establishment from a 30,000-feet new building out on East Nevada St. Located therein are service shops, parts counter, warehouse and order service, receiving and radio dispatching areas.

Forty trucks and two supervisory cars are two-way radio dispatched from this office.

And here's the surpriser—Gensler not only rings service sub-contractors into his picture but, in the Detroit "centralized service" test area:

All G-E replacement parts are available to both dealer and independent service organizations.

This is contrary to NARDA charges, plus accusations which we've heard from subscribers, and it's a step in the right direction.

Nevertheless, the weight of *consumer satisfaction* still is heavily in favor of personalized service (dealer, independent).

A centralized service organization can be a bureaucracy. From whom can a typical housewife get redress on a complaint?

In contrast, she knows her plumber, her heating dealer, and her TV-radio man *personally*. Each of these men takes full

(Concluded on Page 8, Col. 1)

Coolerator Shaves Line, Spurs Output

ALBION, Mich.—Coolerator's line of room air conditioners will be shorter in 1960, but engineering and testing facilities have been expanded for increased production.

The company's manufacturer's representatives learned of these developments at the national sales meeting held in Jackson, Mich., where the 1960 year's plans and policies were presented.

The new line includes 18 models instead of the 22 models included in the 1959 line. The more than 100 representatives in attendance were told that "Lectrofilter" will continue to be the company's outstanding sales feature in 1960 top-of-the-line models at no extra cost.

"This move," reported William G. Kronauge, vice presi-

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Western Air Conditioning Exposition Mushrooms, Conference Program Set

LOS ANGELES — Bigger than any of its previous shows by more than half again, on the basis of space taken thus far, is the Western Air Conditioning, Heating, Ventilating and Refrigeration Exhibit and Conference scheduled for April 27 through 30 at the Shrine Exposition Hall in Los Angeles.

"All signs point to this being the most successful show in our history," declares William P. Tennity, Tennity & Co., and president of the Western Air Conditioning Industries. On Wednesday through Friday, April 27-29, the Exhibit will be open from 1 p.m. to 10 p.m. On Saturday, April 30, the Show hours will be 10 a.m. to 6 p.m.

Four days of highly specialized technical sessions under the direction of Arthur J. Hess of Hess, Greiner & Polland, Western Industries Association vice president, and immediate past president of ASHRAE, highlight the Conference part of the event.

The program for the Conference day-by-day is as follows:

April 27: 2:30 p.m. to 4 p.m. Panel on "Cooling Methods" with William Yerkes, consulting engineer with Hillburg & Turpin as chairman. Robert H. Phillips, Carrier Corp.; Irwin C. McBride, Southern California Gas Co.; C. S. Perkins of Albert C. Martin and Associates; and Ernest Alberts of Los Angeles Department of Water and

(Concluded on Page 25, Col. 3)

Industrial, Building Trades Unions Clash Again over 'Contracting Out' Repair Work

BAL HARBOUR, Fla. — A joint labor-management move in the construction industry to persuade big industrial plants to contract out the responsibility for maintaining and repairing their installations touched off a new explosion in the long-standing jurisdictional feud between craft and industrial groups in the AFL-CIO.

The latest flare-up—and the sharpest yet—came during the mid-winter meetings here of the federation's Executive Council.

The "contracting out" development angered UAW President Walter P. Reuther, head of the federation's Industrial Union Dept. He charged that craft unions in the building trades had joined in a "union-busting" compact with the ousted Teamsters Union.

The industrial unionists denounced as "scandalous" a pamphlet issued by the Construction Industry Joint Conference. This pamphlet assured employers that they would not have to worry about seniority, vacations, or costly pensions and welfare systems if they let outside contractors do their maintenance work.

According to the building crafts, their drive was designed as a counteroffensive against a clause included in many agreements signed by the industrial unions. They said that clause forbids companies from contracting out any work without specific approval from the union representing the production workers.

During the hassle here, Peter T. Schoemann, president of the United Association of Plumbers & Pipe Fitters, threatened to resign as vice president of the federation's Industrial Union Dept.

One observer said Schoemann was Reuther's principal opponent on the Executive Council. According to Reuther, Schoemann once agreed to the principal of binding arbitration to settle disputes on job jurisdiction between industrial unions and the building trades.

"Now he claims he wasn't aware that arbitration was part of the settlement formula,"

(Concluded on Back Page, Col. 1)

If Other Unions Won't Supply Men On Cooling Jobs, UA Local 250 Will

LOS ANGELES — Refrigeration Fitters' Branch of Local 250 of the United Association has taken the position that where another union refuses to furnish men to a contractor for work to be performed within the jurisdiction of that union, which is incidental to refrigeration or air conditioning (such as electrical or insulation work), it will not recognize the jurisdictional claims of that union and, if necessary, permit the work to be performed by their own men.

So it has been reported by the Refrigeration & Air Conditioning Contractors Association of Southern California, Inc. in a bulletin to its membership.

"By agreements and decisions binding on the United Association," said the bulletin of the contractors' association, "some of the work in connection with the installation of refrigeration and air conditioning belongs to sheet metal workers, electricians, insulation or asbestos workers, and members of other unions.

"Therefore, under the present

(Concluded on Back Page, Col. 1)

Union-Contractor Council Enforces System Standard

NEW YORK CITY—Under a broadened union-contractor program to enforce high standards in the installation of warm air heating and air conditioning systems on Long Island, a Climate Control Council has been established to administer a year-old code of ethics.

The joint campaign is sponsored by the Labor-Management Industry Fund of Local 55, Sheet Metal Workers International Association. The union represents about 800 employes of 30 of the largest contractors in Nassau and Suffolk counties.

Each contractor who subscribes to the code of ethics for heating and air conditioning installations may display a "seal of certification and quality."

This is intended to assure purchasers of heating and air conditioning systems that the group of contractors and the union approve the standard of workmanship and materials in the contractor's installation.

The code has been exceptionally well received by the public during the past year, according to Joseph Frederick, president of Local 55, and Gordon Baker, president of Bryant Heating & Air Conditioning Corp. and head of the contractors' association.

With the new Climate Control

(Concluded on Page 4, Col. 5)

CRMA Members Up Commercial Fixture Dollar Volume 13%

CHICAGO—Dollar volume of shipments of commercial refrigerator equipment by members of the Commercial Refrigerator Manufacturers Association for the year 1959 showed a healthy increase of more than 13% over the 1958 totals, according to final figures on the year's volume released by CRMA.

The increases in the fourth quarter was 11.3%, slightly below the over-all increase for the year.

In the area of ratio by type of product to total sales, (given

(Concluded on Page 25, Col. 1)

Typhoon To Open Factory Branch In Los Angeles

LOS ANGELES — Typhoon Air Conditioning Div., Hupp Corp., will open a Los Angeles factory branch to serve the air conditioning and heat pump market of southern California, Don V. Petrone, Typhoon president, announced.

Opening March 1, the branch at 2206 Hill St. in downtown Los Angeles will be convenient to major arteries, it was noted.

"Los Angeles is the fastest growing major market for packaged air conditioning and heat pumps," Petrone said. "Our new branch will offer more engineering service to dealers and customers and will maintain large stocks of service parts."

The branch will serve 13 counties from Bakersfield to the Mexican border and eastward to Arizona.

Dick Southworth has been named manager of the Typhoon branch. He was formerly manager of air conditioning sales for Sues, Young & Brown, Los Angeles. Typhoon equipment was previously distributed by Sues, Young & Brown and Comfort Air Sales, Los Angeles.

"Our factory branch will be better able to serve both the residential and commercial building market through one expanded sales force," Petrone indicated.

Lee Nusbaum Dies

PHILADELPHIA — Lee Nusbaum, 80, president of Pennsylvania Engineering Co. here, died recently in University of Pennsylvania hospital. Nusbaum, who started the business in 1905, was a pioneer in air conditioning and refrigeration.

Mathes Completes Marble Falls Buildings, Sees Cost Cutting In Consolidation Move

FORT WORTH, Texas—The Mathes Co., a division of Glen Alden Corp., announced that two new buildings have been completed at its Marble Falls, Texas facilities, and are being occupied immediately.

Benjamin R. Ebersman, president, said that one of these buildings, a new 10,000-sq. ft. air conditioned office building, is the final phase in a broad consolidation leading to full operation of the company's general offices there beginning Feb. 15, 1960.

The new office building will house all administrative offices, including customer sales service, parts department, field engineering and training, customer accounting, credit, and all executive offices. The more efficient arrangement is expected to give better customer service over-all, it was stated.

In addition to the new office building, approximately 65,000 sq. ft. of new construction has been added to the existing manufacturing plant and this new space will be devoted both to manufacturing and a newly-enlarged parts department.

Ebersman stated that the basic reason for the move, from the former general offices and plant at Fort Worth, "is one of over-all cost cutting and increased efficiency leading to continuation of the company's already good competitive selling position.

"An efficient labor force with broad talents was 'in being' at our Marble Falls plant and had, for more than five years, been manufacturing all of our heavier residential - commercial equipment. In consolidating all manufacturing at Marble Falls, we are realizing full advantage of that experienced production team," he stated.

Mathes manufactures room air conditioners, residential-commercial-industrial air conditioning equipment, and "all-electric" heat pumps.

York Refrigeration, Cooling Sales Up 20% During 1959

CHICAGO—Sale of air conditioning and refrigeration equipment by its York Div. advanced 20% last year, it was reported by Borg-Warner Corp.

The corporation itself posted record sales and near record earnings last year, according to Roy C. Ingersoll and Robert S. Ingersoll, chairman and president, respectively.

Borg-Warner sales for the year ended Dec. 31, 1959, rose to an all-time high of $649,896,847. This compares with $533,033,188 in 1958, an increase of 21.9%.

Net income totaled $39,310,778, equal to $4.36 a share, compared with $21,135,260, equal to $2.34 a share, in 1958, a gain of 86%.

"The sharply higher sales and earnings were due to increased demand for virtually all of Borg-Warner's many diversified products.

The company maintained its strong financial position in 1959, net worth rising to $330,950,189 from $307,876,800 in 1958 and working capital increasing to $201,564,805 from $190,394,902.

Furnace Firm Fined for Code Violations

WESTFIELD, N. J.—Failure to conform to five provisions of the fire code cost the Holland Furnace Co. here a $130 fine.

Fire Chief Martin D. Burke told Magistrate William Beard that violations in installation of an oil burner by the firm contributed to a small residential fire that caused minor damage "but could have been serious."

The violations were listed as (1) failure to obtain a permit for installation of the burner, (2) placing the burner in service without Fire Dept. inspection, (3) locating the burner at less than 7 ft. from the fuel tank, (4) leaving less than a 12-in. clearance between the burner and the ceiling and failing to place asbestos over the furnace, and (5) failure to paint the furnace fuse box red.

The firm was ordered to restore heat immediately to the damaged home when Burke reported the family had been without heat since the fire occured two weeks previous.

Norbert Przekob, Holland's installation manager, informed the court that space heaters had been temporarily supplied. He said the furnace had been installed a year ago before he became manager and that the fire ordinance was now being observed.

Photo - ROYAL CASTLE COMMISSARY, MIAMI, FLA.

KRAMER Presents a New Evaporator Principle

B-R unit combines all the advantages of the gravity coil with the advantages of the fan type unit. The result of years of research and development, it is the evaporator that answers the problem when the installation requires that "extra" in performance.

LOW AIR VELOCITY: Discharge velocities are no higher than a gravity coil—there are no air blasts. Ideal for installations where people must work in a refrigerated room.

NO DEAD AIR SPOTS: By distributing the B-R units over the ceiling area, even temperature and humidity conditions can be maintained throughout the area.

SPACE SAVER: Fits between the rails without hindering the movement of the stored product; it takes no usable space.

IDEAL FOR THE MEAT INDUSTRY: The B-R unit has proven very successful in the refrigeration of fresh meat. Shrinkage is cut to an absolute minimum, slime and mold are controlled, and the bloom and flavor is maintained. Ideal for carcass chilling, meat cutting rooms, meat storage rooms, aging rooms, smoked meat storage as well as pork, bacon and sausage rooms, etc.

MANY APPLICATIONS: Can be furnished with a hot gas heated pan for temperatures below 30°. Available as an "F" or "L" THERMOBANK system with or without the compressor for temperatures of 32° or lower. The B-R designs include units for Refrigerant 12, Refrigerant 22 and ammonia.

Write for Bulletin R-462

KRAMER TRENTON CO. • Trenton 5, N.J.

Warm Summer, Rush To Beat Tax Extension Pushed '59 Conditioner Sales Well over '58

DETROIT — A summer of generally favorable weather and a fall buying rush by distributors to beat extension of the 10% Federal excise tax to all room units effective Dec. 1 combined to push air conditioner sales well over 1958 levels in many areas of the country, utility and association reports show.

PHILADELPHIA

The Electrical Association of Philadelphia reported that distributor sales of air conditioners in that area rose to 68,235 from 42,901 the year before. It gave this month-by-month breakdown:

	1959	1958
January	4,214	3,565
February	3,412	5,506
March	5,404	5,348
April	5,408	7,872
May	8,301	7,647
June	12,337	5,658
July	8,015	5,911
August	2,173	593
September	2,026	742
October	2,876	718
November	7,320	157
December	6,749	370
Total	**68,235**	**42,901**

WASHINGTON, D. C.

In the Washington, D. C. area, distributor sales of room air conditioners (including 2 hp.) totaled 38,437, compared with 23,575. December sales increased to 1,352 from 958 a year earlier.

ST. LOUIS

Air conditioner shipments in December by 10 distributors to their dealers in the territory served by Union Electric Co., St. Louis, climbed to 2,541 from 1,077 in the same month of 1958. This brought sales for the year to 22,383, up 11.5% from the 1958 total of 20,073.

CHICAGO

Figures compiled by the Electric Association of Chicago show that distributor sales of central air conditioners in 1959 rose 33.4% to 3,197. Room air conditioner sales amounted to 54,638, a gain of 59.8%. This report covers sales by distributors to dealers and builders within a 50-mile radius of Chicago.

CLEVELAND

The Electrical League of Cleveland reported that League-member distributors shipped 1,021 room air conditioners in December, compared with only 31 a year earlier. Room unit shipments for the year totaled 10,716, up 81% from the 1958 total of 5,937.

Shipments of 27 central residential systems in the Greater Cleveland area were reported for December, against 11 in the like month of 1958. For all of 1959, the distributors shipped 531 central residential units, an increase of 76% over the previous year's total of 302.

MIAMI

According to Florida Power & Light Co., Miami, December air conditioner sales in its area soared 127% over the previous December, totaling 5,420 compared with 2,389. However, sales for the year—51,739 units, fell behind the 1958 total—60,933.

The FPL report covers sales to dealers as reported by state wholesalers and also sales by department and chain stores and some retailers who purchase their merchandise from sources other than state wholesalers.

ST. PETERSBURG

Heat pump and air conditioner sales in its area last year were about the same as in 1958, according to Florida Power Corp., St. Petersburg.

This report showed that sales of residential and commercial heat pumps (both central and room unit types) decreased from 3,515 in 1958 to 3,440 in 1959. Central heat pump sales were up but room unit heat pump sales fell off. Sales of conventional air conditioners rose to 11,260 from 10,769 in 1958.

WEST PENN

In the southwestern area of Pennsylvania served by West Penn Power Co., dealers sold 3,183 room coolers, compared with 1,945 the year before.

WICHITA

Kansas Gas & Electric Co., Wichita, reported that retailers in its area sold 6,061 room coolers in 1959, a drop of 5.6% from the 1958 total of 6,419. However, sales of central air conditioners rose 20.9%, totaling 706, compared with 584 in 1958.

Acceptance Encouraging

More Complete Data Needed To Fully Exploit Heat Pump Market

NEW YORK CITY—The acceptance of heat pumps "as a practical and economical method of heating as well as cooling is most encouraging," the winter general meeting of the American Institute of Electrical Engineers was told here.

Sales during the past few years have been "impressive." Much additional information is needed, however, by those who promote, design, and sell heat pump systems, M. J. Wilson, sales manager of commercial air conditioning, Unitary Equipment Div., Carrier Corp., told a symposium.

"We must be able to establish the economic advantages of heat pumps. . . . Better and more complete design information on systems is needed."

Wilson said that "We believe we are on the threshold of a general and wide-spread acceptance of this dependable and well proven method of heating."

Several different companies now have many sizes and arrangements of heat pumps suitable for every type of application: residences, stores, offices, industrial plants, etc., he said.

The equipment manufacturers must make available to the professional engineers much more information on system design and equipment performance so they can design heat pump cycles without an undue penalty on engineering costs, he said.

Our fabulous serpentine forming facilities may save you MONEY!
TOP REFRIGERATION PEOPLE DEPEND ON TOP TUBING PEOPLE
GM Steel Tubing specialists are ready to help you solve any steel tubing problem. Their proficiency in forming serpentines is an excellent case in point. Because we have a quantity of multiple benders, we can often adapt one of these instead of starting from scratch. This saves you time and tooling costs. Remember, too, that rotary-straightening of GM Steel Tubing insures flat-as-a pancake serpentines and this speeds up your wire welding for higher production. These characteristics, plus GM Steel Tubing standards for quality, strength, cleanliness and on-time delivery have made it tops with refrigeration people.
Write or wire GM Steel Tubing Sales Manager, Rochester Products Division of General Motors, Rochester, New York.
GM Steel Tubing serpentines are "profile" checked for close adherence to your specifications. Dimension, flatness, pressure and cleanliness tests insure the reliability for which GM Steel Tubing is noted.
GM
STEEL TUBING
BY ROCHESTER PRODUCTS
AMERICA'S LARGEST MANUFACTURER OF REFRIGERATION TUBING
RP

Coolerator Line for 1960--

(Concluded from Page 1, Col. 2)

dent in charge of sales, Coolerator Div., McGraw-Edison Co., "to shorten our line reflects the steadily increasing popularity of our models with the electrostatic Lectrofilter feature.

"Air purification is readily becoming a major factor to consumers as reflected by the rapid sales growth of units designed only for air cleaning and purification.

"The Coolerator 'Custom' models thus give the consumer a product that combines the benefits of both a room air conditioner and an air purifier."

The two Coolerator Div. air purifiers known as Lectrofilter retail for $39.95 and $69.95. The 1960 version of this air cleaning feature on the custom models will also utilize a new, more efficient, foam plastic filter with germ-killing capabilities, it was stated.

"With this new filter," said Kronauge, "we will continue to remove air borne dust and pollen as with the previous fibre-glass filter, and, of course, the new filter will kill germs as well."

The Coolerator Lectrofilter uses a Van deGraaf type generator operated by the moving air inside the conditioners "to deliver a safe high-voltage electrostatic charge to the foam filter," it was stated. "This causes the filter to attract air borne particles as if to a magnet."

Other new improvements include die-cast centrifugal blowers in all models except the "Portable." "Compact" models also have a die-cast centrifugal blower for the condenser. In all other models, a one-piece fan and slinger ring moves the condenser air.

1960 Coolerator Custom 1-hp. model.

According to company spokesmen, the new special designed blowers contribute materially to quieter operation in the 1960 line.

With the expanded testing facilities, the company can continue its extensive quality control program in 1960, the manufacturer's representatives were told.

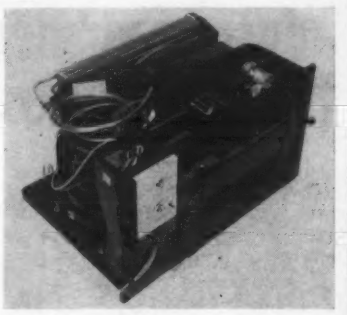
More than 11 major tests will continue to be made on every unit that comes off the Coolerator production line, including the 60-minute maximum performance test which each unit must pass before it can leave the factory, it was pointed out.

The 1960 Coolerator room air conditioner line consists of the following models:

Custom Series: Eight models with capacities ranging from 10,000 to 19,100 B.t.u. All have automatic thermostat, four rotary no-draft grilles, two-speed operation, slide-out chassis, concealed dial controls, ventilation and exhaust control, a separate fresh air filter, and the Lectrofilter.

Super Series: Two models in 1 and 2-hp. capacities with automatic thermostat, four rotary no-draft grilles, two-speed operation, dial controls, and slide-out chassis, and germ-killing filter.

Compact Series: Four models, three for 115-volt operation, with capacities from 6,700 and 8,600 B.t.u. Special features include automatic thermostat, two-speed fan, dial controls, two adjustable air deflectors, and germicidal filter.



CHASSIS of 1960 Coolerator Custom 1-hp. model which shows the components of "Lectrofilter" including Van deGraaf generator, connector, and special adaptation of Scot-Foam filter. Note exclusive fresh air filter to right of control panel.

Portable Model: Lightweight, it is designed to be carried home and installed by the purchaser. Capacity is 4,200 B.t.u. with ½-hp. compressor. It plugs into any 115-volt outlet and has automatic thermostat with new germ killing filter.

In addition to the straight cooling models, Coolerator has three reverse cycle models: a Super 1-hp. models and two Custom models in 1½ and 2-hp. capacities.

Long Island--

(Concluded from Page 1, Col. 4)

Council as an administrative arm, the labor-management group has augmented the code to provide specific guarantees to the buyer of a warm air system for a home or for a commercial or industrial building.

Under the new code, as it applies to homes, a forced warm air heating system must be adaptable for summer ventilation, circulating unheated air or providing for cooling in the summer.

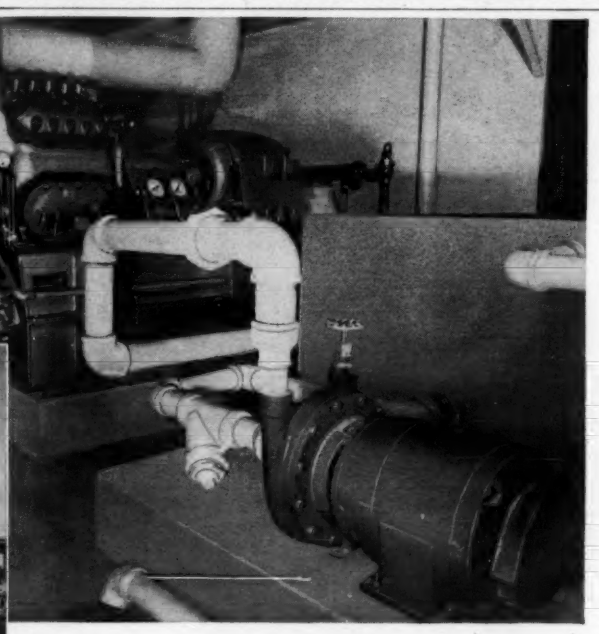
Outlets for perimeter heating must be spaced so that even heat is available in a room at all times. Another requirement is that a thermostat be placed in a central room, such as the living room, approximately 4½ ft. above the floor, for optimum service.

All ductwork must be rigid, and placed not less than 1 in. from floor joists. It must never be nailed, but hung with wire or metal tape.

Registers, or outlets, must be placed in every room except non-exposed halls. Each outlet must have a lever for adjusting the louvers. Outlets along baseboards must be situated so that the homeowner is not apt to put heavy furniture in front of them. If outlets are set high in walls, they must be several inches from the ceiling. The furnace and other equipment must be installed so as to permit adequate servicing of all parts.

In subscribing to the code, contractors undertake to guarantee their work for at least one year, and to service all equipment throughout its life. They also agree to conform to all building codes and regulations of fire underwriters.

Under the code, if a contractor's work does not meet the standards, the homeowner has recourse to the Climate Control Council, the contractor's association, and the union, all of which are parties to the guarantee under the council seal.



INDIANA TOLL ROAD *INTERSTATE* HOSTS *Commissary*

COOLED BY B&G® CONDENSING UNITS

HOSTS

Three low temperature B&G Condensing Units handle the refrigeration requirements of this well known restaurant chain unit at Elkhart, Indiana.

B&G Condensing Units offer a completely capacity-engineered combination of B&G Chassis, B&G Motor, B&G Compressor, B&G Condenser and automatic capacity control. B&G builds *all* these components into a unit specifically designed to meet the requirements of the installation.

Exceptionally rugged construction and low center of gravity assure damage-free installation. Bell & Gossett refrigeration equipment, as in all of its many products, is built to provide years of dependable service—always ready to meet the challenges of unusual conditions.

B&G Condensing Unit

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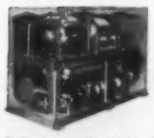
A COMPLETE LINE OF REFRIGERATION AND AIR CONDITIONING "PACKAGES" AND COMPONENTS



B&G Package Liquid Coolers

B&G Evaporators

B&G Centrifugal Pumps

B&G Condensers

Calif. Contractors Plan Meetings with Local Wholesalers

SANTA ROSA, Calif. — A resolution "that we meet regularly with the wholesalers at the local level" was adopted by the California Council of Refrigeration and Air Conditioning Contractors Associations at its recent meeting here.

Chairman James A. Scatena asked for a report from RACCA of Southern California, which has held meetings with supplies wholesalers that reportedly have settled problems involving sales to other than contractors.

Chairman Scatena suggested that each contractor association could endeavor to establish a wholesaler-contractors relations committee and meet six times a year for the purpose of improving relations.

Don L. Kissell of Los Angeles, RACCA vice president, reported on the successful work of RACCA President Tom C. Alexander, working in conjunction with National Association of Plumbing Contractor officials, in obtaining the cooperation of the American Institute of Architects, which has taken to its local chapters the proposal of doing away with large holdbacks on contract payments.

The new practice recommended is to hold back 10% until the work is 50% complete. Then there is no further holdback.

The California Council of RACCA formally voted to affiliate with the Construction Industry Legislative Council which is composed of subcontractor associations, builder exchanges, and other affiliates in the construction industry. CILC has a full-time legislative representative with offices in Sacramento.

There are five RACCA groups in California affiliated with the Council — Los Angeles, San Francisco, San Diego, Sacramento, and Riverside, it was pointed out.

Design Parley Set for May 23 In N. Y. City

NEW YORK CITY—The Design Engineering Conference, which will be held concurrently with the Design Engineering Show, May 23 through 26, at the New York Coliseum, will consider advances made in power, control, materials, computers, components, and mechanics in order to determine how everyday products may be improved.

The conference will be sponsored by the machine design division of the American Society of Mechanical Engineers. The show will be produced by Clapp & Poliak, Inc. of New York City.

More than 400 companies will exhibit at the show which will occupy all four floors of the Coliseum. More than 20,000 engineers and executives are expected to inspect the exhibits and attend the conference sessions.

NAHW Outlines Plans For Meeting May 1-3

NEW ORLEANS — Preliminary plans for its spring convention, to be held May 1 to 3 at the Roosevelt hotel here, have been announced by Northamerican Heating & Airconditioning Wholesalers, Inc.

In addition, the group is promoting a post-convention tour to Mexico May 5 to 11.

A reception Sunday evening, May 1, will open the convention. Committee meetings are scheduled for Monday morning, May 2, followed by a luncheon and a panel workshop session that afternoon.

There will be a membership breakfast and general meeting Tuesday morning, another panel workshop session, and luncheon, the convention winding up with a social hour, banquet, and dance that evening.

Air Factors, Inc. Moves To Larger Specially-Built Plant

COVINA, Calif. — Robert Lambert, president of Air-Factors, Inc., Southern California manufacturer of air distribution products, announces the recent transfer of the firm's operation to 1630 Industrial Park Ave., Covina.

The 34,000-sq. ft. plant occupied by the company in Monrovia, since 1951, was sold for an undisclosed amount earlier.

The ground area of the new structure fronts 550 ft. on Industrial Park Ave., by 335 ft. deep. Truck and car high loading docks, landscaping, controlled set-backs, and off street parking are additional features.

The building covers a total of 51,500 sq. ft. The 11,500 sq. ft. of office space includes a 50-ft. by 50-ft. testing laboratory with a 24-ft. high ceiling, all completely refrigeration air conditioned with diffused air distribution throughout.

The remaining 40,000 sq. ft. of factory space is maintained with an evaporative cooling system for summer and a forced air heating system for winter. The plant is fully sprinklered.

Executive offices occupy the entire second floor.

Total over-all investment of land, buildings, and equipment is said to exceed $1,000,000.

Air-Factors organized in 1946 to manufacture diffusers, grilles, registers, dampers, and louvers for residential, commercial, and industrial heating, ventilating, and air conditioning, originally began operations from a plant on Mission Rd. in Los Angeles.

In 1951, the company purchased a factory in Monrovia, with approximately 17,000 sq. ft. of office and factory space. By 1955, another 17,000 sq. ft. was added. The entire 34,000 sq. ft. was subsequently modernized and redecorated inside and out.

Late in 1958 it became apparent to the management that expanding sales must be met with improved facilities and more working space. As a result, construction of the present building began early in 1959.

B & G Air Conditioning Organized In Dallas

DALLAS — B&G Air Conditioning Co., 302 Stemmons Freeway, has been organized here by John Brodie and L. L. Ground for the sales, service, and installation of air conditioning and heating equipment.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

In celebration of our 60th year of world-wide progress . . .

A Genuine Coleman
gas-lite
Yours to give now as a "buyer's bonus" when you install
Coleman

America's Only Bonded Line Heating and Air Conditioning

This new Coleman Gas-Lite is the key to the most complete and most exciting business-building program ever offered through heating and air conditioning dealers. Most complete because it includes every imaginable aid to selling. Most exciting because it gets an enthusiastic response from everyone in the market for heating or air conditioning.

Here's the plan. As an anniversary salute, we're making it possible for you to offer a genuine Coleman Gas-Lite to your customer with the installation of any Coleman central furnace, wall heater, floor furnace or air conditioner. It's an offer your prospects will go for when you give them the lamp as a bonus for buying now! For more information, use the coupon below or call your Coleman distributor for your complete program kit containing full details—*right away!*

Best selling tool of all—you offer this exclusive $500 bond with every unit you sell

Coleman's Gas-Lite promotion will be announced to home owners in the March 26 Saturday Evening Post

Works on any gas—installs 4 ways
Can be mounted on post (as at left)

Wall decorator bracket

Can be mounted on table

Can be mounted on wall with decorator bracket

Also makers of famous Vit-Rock water heaters, Decorama space heaters, Coleman lanterns, camp stoves, jugs and coolers—mobile home heating and air conditioning

The Coleman Company, Inc., Wichita 1, Kansas

Quickly send more information on your Gas-Lite promotion.

*Name*_____ *Title*_____

*Firm Name*_____

*Address*_____

*City*_____ *Zone*_____ *State*_____

$100,000 Hole

Victim Sues Contractor In 13 Ft. Fall Through Opening To Floor Below

ELYRIA, Ohio—A LaGrange contractor was named in a $100,000 suit filed by a Ridge Tool Co. stockman who cited injuries suffered from a fall through a hole allegedly cut in the floor by the contractor.

The suit was filed by Rainey G. Nichols against Donald Page. The accident occured last October at Ridge Tool where Page was installing air conditioning.

According to the petition, Nichols was moving material and in the course of his work, removed a piece of plywood from the floor, failing to notice that it covered a hole which had been cut by the defendant.

The petition said Nichols fell 13 ft., suffering a broken back and other injuries.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

New Cylinder Valve Uses Hand Wheel

NEW YORK CITY—Designed specifically for use with fluorocarbon refrigerants, a new hand-wheel operated cylinder valve has been introduced by Union Carbide Chemicals Co., division of Union Carbide Corp.

The new valve is interchangeable on the 10, 25, and 145-lb. Ucon refrigerant cylinders. When Ucon cylinders now in the field are returned for filling, they will be fitted with the hand valve at no cost to the wholesaler or his customer, the company has announced.

Claimed to be a major design advancement in refrigerant packaging, the new valve incorporates several proved features of the refrigerant valve now in universal service, and in addition, two design improvements have been made to provide easier operation, decrease maintenance, and prevent leakage.

According to T. M. Hartley, Ucon sales manager, hand-wheel operation of the new valve provides the refrigerant user with a convenience never before possible.

Another feature of the unit

HAND-WHEEL operated cylinder valve which Union Carbide has introduced for use with fluorocarbon refrigerants.

is its packless diaphragm design. Eliminated are the continual adjustments and replacements of packing and the leakage problems commonly associated with the conventional valve, the company says.

"This design in preventing leakage will virtually eliminate the loss of costly refrigerant in the field," Hartley continued. "We know the packless diaphragm requires virtually no maintenance and has proved itself in the field in similar applications for many years."

Those features of the old valve which have been retained include the use of naval brass as the structural material for the valve body and the use of Duronze alloy in the spindle. In addition, the positive safety feature of the fusible poured metal alloy plug has been retained.

Valve Tested for Year

Exhaustive field and laboratory tests have been conducted on the new valve over the past year. To test ease of operation, accelerated cycle tests were performed to approximate up to four years' field service.

It was also established that there is no possibility of overtorquing the valve assembly by hand, a common danger with wrench-operated valves, the company claims.

Under impact tests the Zamak alloy hand wheel was shown to meet the most severe requirements of field service. At its breakdown point the wheel was found to bend, but not crack.

Protection for the valve is provided on the 10 and 25-lb. Ucon refrigerant cylinders by Carbide's ring-top design. On the 145-lb. cylinder the valve fits under, and is protected by, a conventional transit cap.

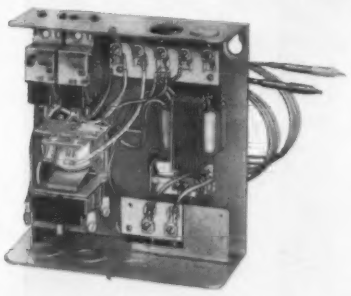
The company's refrigerants are sold to wholesalers exclusively through Ansul Chemical Co.

Virginia Groups To Meet

OLD POINT COMFORT, Va.—Annual joint meeting of the Virginia State Refrigeration Service Engineers Society and Region III, Air Conditioning & Refrigeration Wholesalers will be held at the Hotel Chamberlin here the weekend of March 25 to 27.

COOLING CENTER
controls the remote condensing unit. Internal circuits are factory-wired.
FAN CENTER
controls the air handling equipment on all systems with remote condensing units.
COOLING CENTER
PENN CONTROLS, INC.
PENN
FAN CENTER

ALL-NEW!
"CODED" CONTROL CENTERS
for residential air conditioning



SYSTEM CENTER
interlocks in one unit all heating-cooling functions for self-contained systems.

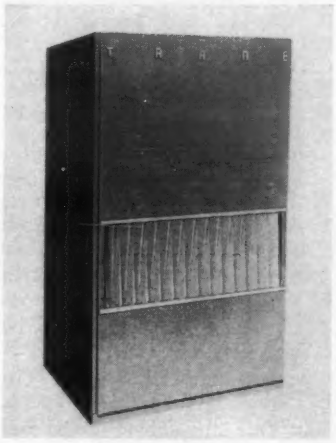
In Penn's newest line of Control Centers, field-replaceable parts are easy to get out . . . easy to get in *correctly* because all internal wiring is color coded. And, these color-coded leads are equipped with *quick-connect terminals* . . . no more looping of wire or soldering connections.

There are other advantages, too! Centers are small to save space in compact 2 and 3 H.P. units. Wrap-around cases save wiring time in factory and field. And, field-installed Fan Centers have Life Guard reverse panel construction. All operating parts are easily accessible, yet are fully protected against accidental damage. Write to the Penn factory for the complete story on these new, better Control Centers.

PENN CONTROLS, INC. Goshen, Indiana
EXPORT DIVISION: 27 E. 38th ST., NEW YORK, N.Y.

AUTOMATIC CONTROLS FOR HEATING, REFRIGERATION, AIR CONDITIONING, APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

New Trane Water-to-Air Heat Pump Available In 5 Sizes from 3-15 Tons



DALLAS — A water-to-air heat pump that will provide year-round air conditioning for offices, stores, restaurants, or homes was introduced by The Trane Co. at the 2nd Southwest Heating & Air Conditioning Exposition here.

Company officials indicated that other types of heat pumps will be introduced in the future.

The heat pump shown here is available in five sizes from 3, 5, and 7½-ton single compressor units to 10 and 15-ton dual compressor units. Heating capacities range from 49,000 to 206,000 B.t.u.h.

"All moving parts are enclosed in an acoustically treated cabinet to suppress operating sounds," the company said. "The dynamically balanced fan operates at slow speeds for quiet operation. Both fan and compressor are resiliently mounted to absorb noise and vibration.

"The Trane heat pump is designed for easy installation with only simple electrical and water connections. Standard 'T' water connections can be made from either side of the cabinet. All internal piping and wiring is factory installed. Fans may be field rotated for horizontal, as well as, vertical discharge.

"Units can be installed free standing, recessed, or at remote locations. The heat pump can be used for free air delivery with optional plenums or with duct work. Oversize motors overcome normal duct or external resistance. All units are compact and will fit in low ceiling areas.

"Precision built heating and cooling thermostat provides desired year-round temperature. An integrally mounted temperature control panel with selector switch for manual heating and cooling changeover is standard on 3, 5, and 7½-ton models.

"Controls consist of separate heating and cooling expansion and water regulating valves, magnetic starters, pressure and temperature cutouts, and reset relay. The control circuit is supplied from a low voltage transformer.

"Remote, wall-mounted thermostat is standard on 10 and 15-ton models and optional on smaller units. The larger, dual refrigeration model controls are a combination of low voltage heating and cooling, two-stage thermostat and selector switch for automatic changeover.

"All vital functions of the heat pump are protected by temperature and pressure sensing controls. A special four-way reversing valve utilizes differences in refrigerant pressures within the system to produce positive switching action to heating or cooling, as required.

"Two independently controlled expansion valves meter the flow of refrigerant in heating and cooling circuits to provide the precise volume of refrigerant necessary for top efficiency.

"An independent, internal thermostat senses water temperature in the heat exchanger to provide protection against freezing. A separate fan control permits independent operation of fan for ventilation."

The company said all heat pumps are equipped with a special "high-capacity" Trane-designed "Sigma-Flo" coil. This coil is said to assure rapid drainage and prevent moisture clogging.

"The new unit has balanced heating and cooling performance," according to Trane. "A special auxiliary, electrical heating element provides supplemental winter heat loads, if required.

"Panels of the cabinet are constructed of heavy gauge steel. These are strengthened by rigid mounting frames which support operating parts. No components are mounted on the panels for a more rigid, vibration-free cabinet.

"The water-to-refrigerant heat exchanger and all piping are insulated to prevent corrosion from moisture in the cabinet. Cupronickel water tube condensers are used to resist corrosion by saline water conditions.

"The new unit is designed for easy maintenance. All operating parts are mounted on a slide out frame. Fan bearings are permanently lubricated. Front panels provide full access to air filters and the complete interior."

Utility Fan Names Marc McGuire

M. McGuire

LOS ANGELES — Marc McGuire, assistant sales manager of Utility Fan Corp., a division of Utility Appliance Corp., has been promoted to sales manager, it was announced by Ben B. Breslow, president of Utility Appliance.

McGuire has had a wide range of experience in the commercial circulation and air conditioning fields, it was noted. Prior to joining Utility Fan four years ago, he served with U. S. Electrical Motors, according to the announcement.

WATER COOLER
5 Gallon Bottle Type
$89.50*
*TO DEALERS ONLY
. . . economical . . . efficient . . . streamlined . . . space-saving . . . ⅛ H.P. Tecumseh hermetic unit . . . five year warranty on refrigeration cycle . . .
Remcor Products Co.
321 E. Grand Avenue,
Chicago 11, Illinois
manufacturers of water coolers since 1940
also available:
pressure type coolers * $139.50
bottle type coolers (with refrigerated storage compartment)
REMCOR
Model CB-2A

Tecumseh engineering VISION
37 MILLION COMPRESSORS IN THE FIELD
now offers full coverage of the
COMMERCIAL MARKET

WITH 127 HERMETIC CONDENSING UNITS.

With the introduction of the new 2 and 3 H.P. low temperature hermetic units, the Tecumseh line is now complete for all normal commercial applications. Within the space of a few years time, this line has grown from only 9 units to today's blanket coverage.

Hermetic units now cover the range from ⅛ to 5 H.P. with variations for condenser cooling (air, water, and air-water), refrigerant, back pressure, torque and electrical characteristics. Every model has built-in sales features which are important to every user of refrigeration equipment.

This hermetic line is further backed up with 86 replacement compressors together with a full range of conventional equipment. Now you can sell matching Tecumseh equipment for all commercial applications. Investigate the outstanding advantages of going Tecumseh all the way!

TECUMSEH

The Leader Serving Leaders in the Air Conditioning and Refrigeration Industries
TECUMSEH PRODUCTS COMPANY
MARION, OHIO — TECUMSEH, MICHIGAN
FOREIGN OPERATIONS DIV: P. O. Box 2280, 24530 Michigan Ave., W. Dearborn, Michigan
CANADA: Tecumseh Products of Canada Limited, 1667 Dundas St., London, Ontario.

Inside Dope

By GEORGE F. TAUBENECK

(Concluded from Page 1, Col. 1)

responsibility for the products he installs, sells, and *services*.

To be fair, there are rebuttals to this story—and premise. Both "Dope" and Frank Versagi intend to explore this explosive situation more fully in subsequent weekly issues of the NEWS.

Intercepted Staff Memo

Following guide to "ethical conduct" has been issued by a substantial organization in the publishing area:

"The payola controversy requires a distinction between *hospitality* and *bribes*, plus definitions thereof. Here is our policy:

"A BRIBE constitutes a payment in advance for corruption of judgment."

"HOSPITALITY cultivates friendship and goodwill."

"Inasmuch as both our Advertising and Editorial departments are involved, let's spell out these distinctions.

"ADVERTISING: We do not *bribe* space buyers to place insertions in our publications. We do *entertain* them — dinner, sports events, golf, for example —to incur goodwill (no strings attached).

"*EDITORIAL:* We do not accept *bribes* to run, slant, or kill a story. We do accept *invitations* to luncheons, cocktail parties, dinners, and group transportation to exhibitions or press conferences (no strings attached).

"Bribes, of course, are insufferable. Hospitality, on the other hand, is an expression of goodwill—and the world needs more of that.

"We ask our advertising people never to consider their proffered hospitality as an invitation to corruption. They should sell our product on its merits.

"We demand that our editorial staff never allow accepted hospitality to interrupt repertorial integrity."

Good statement, this. It might have wide application in all types of businesses.

Classic Boners

Jack Sweet discovered in the *Wall Street Journal* this delicious typographical error:

"Some poople may think . . ."

We've all met "poople," haven't we? Let's preserve this word. Put it in the dictionary!

Ted Kellogg of ARI relays (from *Home Furnishing Daily*):

"He is entitled to five silver dollars if he buys a new air conditioner regardless of brandy."

Dead Pan Englishmen

Sometimes it's difficult to tell when an Englishman is kidding and when he's playing it straight. Case in point:

Dale Mericle's close friend, C. E. Willis (Lec Refrigeration, Bognor Regis, England) was issued the following OFFICIAL instructions from the Civil Defense Recruiting Office, 15-19 Windsor St., London:

LIST OF NECESSARY EQUIPMENT FOR ALL WARDENS

1. One respirator.
2. One axe (to be carried in belt).
3. One stirrup pump (to be carried over left shoulder).
4. One extension ladder (to be carried over right shoulder).
5. One long shovel (to be carried under left arm).
6. One rake (to be carried under right arm).
7. One scoop (to be carried in left hand).
8. One whistle (to be carried in mouth fixed with lanyard).
9. Two wet blankets (to be carried round neck).
10. One belt to be worn around waist, with ten hooks for carrying six bags of sand and four pails of water.
11. One flashlight, carried round neck (on top of blankets).
12. One helmet with brim turned up to carry extra water for drinking purposes only.
13. One box of matches to light incendiary bombs which fail to ignite.
14. Extra sand to be carried in all available pockets.
15. One ship's anchor, to be dropped in case the Warden wishes to stop running.

Dirty Bird

Those who attended the ASHRAE meeting and the Southwest Exposition glowed over the way in which the Dallas-Ft. Worth area went all out to welcome visiting members of the industry.

In addition to the close personal attention given to all conventioneers' needs, local businessmen displayed signs of welcome.

One enthusiastic nite spot owner close to the headquarters hotel, however, failed to check closely on the exact name of the visiting group, and its welcoming sign flaunted:

"Welcome ASHACE."

"It's a good thing that someone didn't come up with a proposed name that would have had those initials when wrangling over the merger was going on," Editorial Director Phil Redeker reports one member as commenting, "or it might have been adopted unanimously."

Lady Chatterley's Lover From Trade Paper Angle

Here's how the controversial novel, *Lady Chatterley's Lover*, was reviewed by Ed Zern in *Field and Stream* magazine:

"This fictional account of the day-by-day life of an English game-keeper is still of considerable interest to the outdoor-minded readers, as it contains many passages on pheasant raising, the apprehending of poachers, ways to control vermin and other chores and duties of the professional gamekeeper.

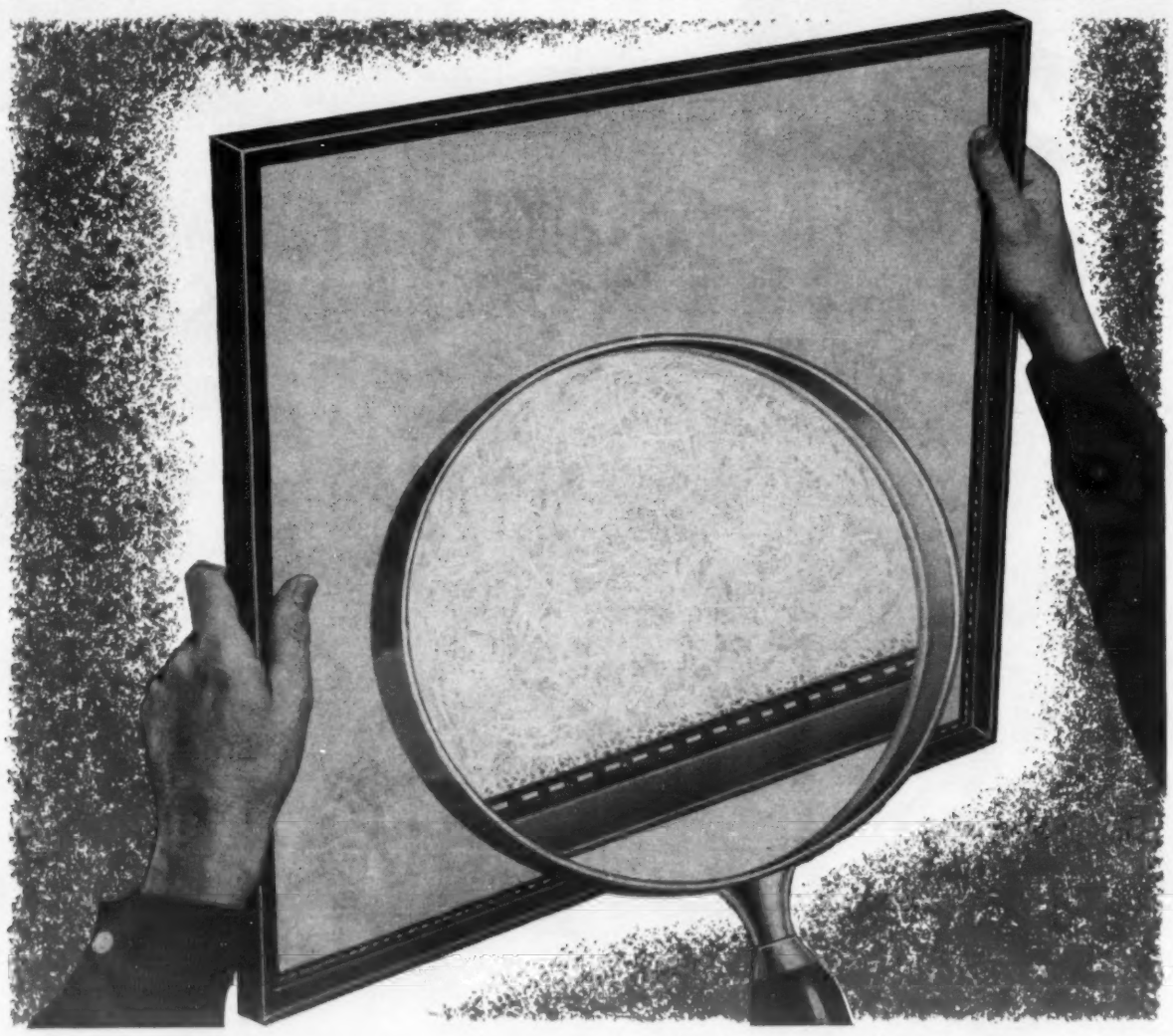
"Unfortunately, one is obliged to wade through many pages of extraneous material. This book cannot take the place of J. R. Miller's *Practical Gamekeeping*."

Perhaps "Dope" should review *Lady Chatterley's Lover*. No doubt there's a heating angle in it somewhere.

Australia 'Gets With It'

The Australia Institute of Refrigeration (of which "Dope" is proud to be one of the two Honorary Members) has changed its name to the Australian Institute of Refrigeration, Air Conditioning, and Heating.

They're right in step with our merging industries over here!



Celanese fibers help
FRAM PERMACHEM-TREATED AIR FILTERS
keep air "hospital clean"

Fram, a world leader in automotive filters, devoted ten years to developing a superior air filter for home and commercial use. Today, the nationally advertised Fram Filter traps and retains more impurities and keeps air "hospital clean" by killing over 99% of the trapped bacteria as well as eliminating filter mold and mildew.

It's Permachem's germicidal treatment that kills over 99% of the caught bacteria. Celanese acetate fibers, engineered exclusively for Fram, permit full depth maze filtration by minimizing surface retention giving 34% greater filter life and dirt retention. In addition, Celanese fibers eliminate the "sliver" problem in handling, making Fram filters easier to store, show and sell.

Eleven leading manufacturers of heating and cooling equipment have chosen Fram filters for their 1960 lines. For full information on how you can offer your customers a better performing, longer lasting air filter, call or write Fram Aire Corporation, Providence 16, Rhode Island. Over 40 sizes, as well as rolls and pads, available. Listed by Underwriters Laboratories as a Class II filter. *Celanese Fibers Company, a division of Celanese Corporation of America, New York 16, New York.* Celanese®

Celanese industrial fibers

Gas Residential Central Heating Sales Hit New Peaks During 1959

NEW YORK CITY — Homeowners bought more gas-fired furnaces and boilers for residential central heating during 1959 than in any previous year.

A year-end survey of manufacturers, conducted by the Gas Appliance Manufacturers Association, shows that shipments of forced warm air and gravity-type furnaces were 22.6% ahead of the 1958 total.

The 1959 total was 1,046,700, compared to 853,700 for the preceding year. The previous high year was 1955, when 874,400 units were sent to market.

Sales of boilers, used in steam and hot water heating systems, exceeded their own previous high records for the fifth consecutive year. The 1959 total was 136,200, a 10.6% improvement over the former high, 123,200, reported in 1958.

Edward R. Martin, GAMA director of marketing and statistics, said that shipments of conversion burners, used in adapting existing heating systems from other fuels to gas, also showed a 10.1% sales increase for the year. The 1959 total was 156,300 units, compared to 142,000 for 1958.

Shipments of all three types totaled 1,339,200, setting another new record for this category and placing the 1959 sales 19.7% above 1958's 1,118,900. The former all-time high was 1,173,600, recorded in 1955.

December shipments of this equipment, the GAMA survey disclosed, were as follows:

Furnaces—58,300, an 11.1% decrease from the 65,600 reported for the same month of 1958. Boilers—6,400, a 12.3% decline from the December, 1958 figure, 7,300. Conversion burner shipments for the month showed a 16.2% improvement, from 6,800 in 1958 to 7,900 in 1959.

Combined shipments of the three types for December totaled 72,600, a decrease of 8.9% from the 79,700 reported for the same month a year ago.

Sales of vented recessed wall heaters in 1959 also set a new high record, the GAMA survey revealed. The new total was 448,900, a 15.4% increase over the 1958 amount, 389,000. The previous all-time high for this equipment was 390,400, reported in 1955.

December shipments of vented recessed wall heaters amounted to 36,000, an increase of 2.3% above the 35,200 recorded for December, 1958.

Room heaters and other types of gas direct heating equipment shipped during the year numbered 1,463,100 units, a 4.8% increase over the 1958 total, 1,395,900. December shipments of this type added up to 61,300, a 32.2% decrease from the 90,400 units dispatched in the same month of 1958.

Gas floor furnace sales were down 0.5% for the year, from 97,500 in 1958 to 97,000 in 1959. December shipments of floor furnaces numbered 2,600 units, 50.9% less than the 5,300 reported for December, 1958.

Unit heaters and duct furnaces, used mainly in commercial and industrial installations, totaled 160,600 units for the year, a 20% increase over the 133,800 reported in 1958. December sales were up 11.7%, from 14,500 in 1958 to 16,200 in 1959.

The GAMA report is based on a survey of manufacturers who account for a majority of the output in each category, with the responses expanded to show national shipment totals, it was explained.

Van Zanten Named Swan President

VANCOUVER, Wash.—M. R. "Milt" Van Zanten is new president of Swan Mfg. Co., manufacturer of "Vecto-Ray" baseboard heaters, wall heaters, and thermostats.

Also announced by William L. Muyskens, Swan chairman of the board, was the appointment of William Leiner as vice president in charge of production and secretary-treasurer.

Van Zanten, who joined the firm in 1956 as factory representative, was more recently Swan's advertising and public relations director. Leiner owned his own company prior to joining Swan, and was general foreman in the tooling, fabricating, and assembly departments at Curtiss-Wright Co.

The Swan firm recently announced plans for a quarter million dollar plant expansion program to be completed by the first of next year. 1959 sales of their Vecto-Ray line of baseboard heaters exceeded 1958 figures by over a third, it was reported.

Oil Residential Central Heating Equipment Sales for 1959 Up 9% over Previous Year

NEW YORK CITY—According to figures released by the Market Research Dept. of the Oil Heat Institute of America, shipments of all types of residential oil-fired equipment for centrally heated homes in 1959 totaled 605,791, up 9% over 1958.

Burners, shipped principally for use as replacements of old or obsolete equipment and for conversions from other fuels, totaled 143,250, up 23% over 1958.

Shipments of oil-fired boilers totaled 144,548, up 16.5% over 1958.

The only units to show any decline in shipments over the preceding year were warm air furnaces, the total 1959 shipments of 317,993 being a bare 2.2% off the 1958 figure, it was noted.

It is predicted that 1960 will top 1959 in all departments, due in part to the appearance on the market of much new and improved oil heating equipment.

A great many of these new items will be formally introduced to the trade at the 23rd National Oil Heat & Air Conditioning Exposition, to be held April 4-7 at the New York City Coliseum, it was pointed out. The show is sponsored by the OHI of America and is held every two years.

Information can be obtained by writing to Oil Heat Institute of America. 500 Fifth Ave., New York 36, N. Y.

Revere Copper Water Tube in Triple Win at SQUAW VALLEY

Used in Athletes' Dormitories, Officials' Housing and Spectator Buildings for the VIII Winter Olympic Games

ONE OF TWO SPECTATOR CENTERS—These 9-sided buildings with walls of glass provide all the comforts of home and then some, from banks to beauty parlors. Both are served by non-rusting, enduring Revere Copper Water Tube.

CENTER OF ATTRACTION — at VIII Winter Olympic Games where world's top athletes from 34 nations are competing for supremacy in figure skating and ice hockey.

TWO OF THE DORMITORIES that house over 1,000 athletes that are competing in the games.

* * * *

CORLETT AND SPACKMAN, KITCHEN AND HUNT, Architects Associated —San Francisco, Calif.
VANDAMENT-DARMSTED, Mech. Engs.—San Francisco, Calif.
W. L. HICKEY SONS, Plumbing Contractor—San Bruno, Calif.
TAY-HOLBROOK INC., Revere Distributor—San Francisco, Calif.

When plans were made for the United States to entertain 33 other nations at Squaw Valley, Tahoe City, California; naturally those plans called for putting our Nation's best foot forward. For the world's top athletes must have at their disposal the best available equipment and accommodations.

25,000 ft. of Revere Copper Water Tube were used for hot and cold water lines and convector heating in the Athletes' Dormitories, Officials' Housing and Spectator Buildings. Both "K" and "L" were used, in sizes of ½" through 2", by W. L. HICKEY SONS, Plumbing Contractor, and furnished by TAY-HOLBROOK INC., Revere Distributor.

With copper on the job, not only will the more than 1,000 athletes and hundreds of thousands of spectators at the VIII Winter Olympic Games receive dependable service, but additional thousands of winter sports fans can continue to enjoy the reliable performance of copper for many, many years to come.

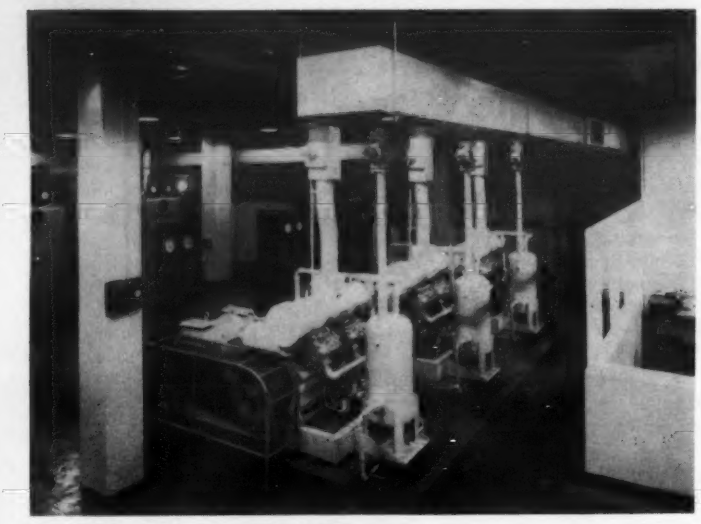
REVERE COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

230 Park Ave., New York 17, N. Y.

Mills: Rome, N. Y.; Baltimore, Md.; Chicago and Clinton, Ill.; Detroit, Mich.; Los Angeles, Riverside and Santa Ana, Calif.; New Bedford, Mass.; Brooklyn, N. Y.; Newport, Ark.; Ft. Calhoun, Neb. Sales Offices in Principal Cities, Distributors Everywhere.

11-Story Australian Office Building's Cooling System Powered by Brunner



AN INSTALLATION that really deserves the adjective "neat" is this concentration of three 100-hp. Brunner compressors employed in the air conditioning system of the new 11-story headquarters building of The Broken Hill Pty. Co. Ltd. in Melbourne, Australia.

* * *

WEST HARTFORD, Conn.—Impressive "Essington Lewis House," new headquarters for The Broken Hill Proprietary Co., Ltd. in Melbourne, Australia, is an example of the "world-wideness" of Brunner products, according to the division of Dunham-Bush, Inc. here.

Integral part of the "Essington Lewis" 11-story full air conditioning system are three NR-100 Brunner compressors with 100-hp. squirrel cage motors.

"Location of the compressors on the first floor rear below ground level, demonstrates Brunner installation versatility," it was stated. "This location was necessitated by an adjacent 17-ft. ground fall and bluestone foundations of adjoining buildings, precluding the possibility of a basement."

The three compressors are connected to common 6-in. suction and 5-in. discharge lines with 25, 50, and 75% capacity control with liquid injection.

Each compressor has an oil trap and is fitted with electric crankcase and oil trap heaters, thermostatically controlled.

According to E. C. Cameron, air conditioning manager, Gordon Bros. Pty. Ltd., Victoria, Australia, refrigeration and air conditioning engineer, the compressors "appear to be operating quite satisfactorily," thus insuring efficient air conditioning."

'Kryon 12' Canned For Export Market

NEW YORK CITY — Ad. Auriema, Inc., export agency, announced in a recent bulletin that it is offering "Kryon 12," pure Refrigerant-12, "to meet the needs of refrigeration customers all over the world."

Kryon, pronounced Kree-on, is packed in 15-oz. cans, in cases of 12 cans each, it was pointed out. The agency said prices are competitive.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

Del Moro Establishes Milan Office as Consulting Engineer

MILAN, Italy—A new firm, Ing. Del Moro, Consulting Engineer, specializing in air conditioning and refrigeration engineering, recently announced its opening here.

Mario Del Moro was formerly chief engineer for the Italian distributor of York and Buensod Stacey and has had 20 years' experience in industrial design, contracting, and testing in air conditioning as well as refrigeration.

He has specialized in high velocity systems, heat pumps, and industrial ventilation.

Del Moro, who is a member of ASHRAE, also offers his services to United States interests in Italy, according to the announcement.

'Inner Space' Ads Catch World's Eye

NEW YORK CITY—While world headlines have carried the news of outer space, a manufacturer in Mt. Kisco, N. Y. has gained worldwide attention with a small but steady campaign devoted to inner space, it was reported.

The firm is Kensico Tube Co., manufacturer of precision-drawn copper tubing, including a specialty line of small-diameter tubing used mainly for instrumentation and controls.

An advertising campaign of pages in two colors has featured the inner space smoothness of the special tubing (as small as 0.036 of an inch inside diameter) and the resulting uniform flow of Kensico's capillary and restrictor tube installations. Each advertisement has offered engineering data and photomicrographs to show wall structure composition.

As a result of the campaign, prepared and placed by Adams & Keyes, Inc., the tubing company has received engineering requests from Cape Canaveral and China, Sweden and Argentina, from Cairo, Cape Town, and Sao Paulo, it was pointed out.

In all, over 600 replies have come from more than 20 foreign countries, as well as most states in the U. S., the Kensico report said.

Kensico Tube is planning major expansions of its production facilities to handle the anticipated increase of volume during the 1960's.

"The foreign response is interesting in that the two-color campaign was placed only in domestic trade magazines, in the fields of control engineering, heating, refrigeration, and air conditioning," it was noted.

MR. HEATING & AIR CONDITIONING CONTRACTOR:

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NO. 1: Deferred Payment Plan!

PRE-SEASON, don't tie up your working capital. We say *keep your money!* Your American-Standard Air Conditioning Division Distributor will ship you the furnaces and air conditioners you need for stock, pre-season installations and show-room display . . . and you don't pay a penny till June 1st!* And no interest!

NOW MR. DEALER, when you take on a small working stock, this enables your Distributor to restock his inventory immediately. Thus he's in an even better position to supply your requirements when the rush season arrives. "Filling the pipeline to the Consumer" is an important part of the overall American-Standard business building plan to put their dealers in the best possible position in their fight to capture the Profitable Spring Modernization Market.

*Subject, of course, to local credit restrictions.

NO. 2: Springboard to Profit!

Look what you get:

1. First quarter stock on deferred payment till June 1st . . . and no interest charge!
2. $100 worth of lighted signs . . . truck painting . . . billboards . . . etc. . . . FREE!
3. $28.30 worth of technical manuals . . . sales aids . . . displays . . . FREE!

That's what your American-Standard Air Conditioning Division Distributor is ready to give you, when you sign up by taking a small working stock on deferred payment during the first quarter. Here's a deal that will give you a running head start into fabulous modernization markets of the 60's!

SEE YOUR DISTRIBUTOR TODAY!

Electric Heating Gaining In Cleveland

By Frank J. Versagi

CLEVELAND — Being installed at the rate of 350 whole houses a year, electric heat is "gaining favor and showing signs of becoming a major item on our lines," stated John Lushbaugh, air conditioning and heating representative, Cleveland Electric Illuminating Co.

Lushbaugh told the NEWS that, with the exception of one air conditioning distributor, electrical contractors are making all resistance heat installations in this city, although most of these use some experienced outside source to make the heat loss calculation for the structure.

All of the installations are baseboard and/or glass panels, according to the CEI representative. "Central station resistance heat has not taken hold here."

Checking with several contractors, the NEWS found the feeling that central station resistance heat is only practical where cooling is also wanted or in small apartments where the units can be installed without ductwork.

"The argument over whether or not the air is circulated is usually no problem, because people who buy electric heat always recall some major objection to their old forced air system. We can sell them more even comfort, less stratification, and cleanliness," stated one installer.

"Probably the most serious complaint against electric heating is *convection streaking,* the familiar streaks of dirt near baseboard convectors (and hot air registers). The cause is an improperly mounted unit which allows the wall in the immediate area to remain cold. Usually, all that is required to correct the situation is to force convector snug against wall."

The argument that central resistance heat provides ductwork for intended air conditioning carries very little weight in this city because the demand for central air conditioning is so slight, according to Lushbaugh of CEI. This factor may also help account for the low sales of heat pumps which are only a fraction of resistance heat sales.

CEI figures show 720 central air conditioners installed in January through December of 1959, compared to some 600 the year before—this in a metropolitan area of 1.5 million.

Room units do much better—9,902 sold in the 11 months of 1959, compared to 6,006 in 1958.

"Probably 60-70% of the central air conditioners are going into existing homes," stated Lushbaugh.

"Most of these go into modern homes, so existing ductwork is adequate. In some older, 2-story homes, there have been occasions when it was necessary to supplement the central unit with a room unit upstairs."

Goodell Engineering Opens

BEAUMONT, Texas — Al Goodell, a past board member of the Mechanical Contractors Association of Texas, is owner of the recently-opened Goodell Engineering Co., an air conditioning contracting and engineering firm here.

April 4-7

Commercial-Industrial Units of OHI Plan Meetings within Meeting

NEW YORK CITY — The Commercial-Industrial Associates units of the C-I Manufacturers Section of the Oil Heat Institute of America will hold special meetings each day of the OHI's forthcoming 23rd annual convention in April at the Park Sheraton hotel here.

The meetings will be for franchised representatives of manufacturers of commercial and industrial equipment and will run from 10 a.m. until noon.

On Monday, April 4, opening day of the convention, a panel will discuss modernization of existing equipment including such aspects as depreciation, replacement, etc.

On Tuesday, there will be a field trip to installations in the immediate area, each selected because of some aspect of particular interest.

A program devoted specifically to marketing and specifying for Commercial-Industrial dealers and Commercial-Industrial distributors and installers has been arranged for Wednesday. Subject for the Thursday session will be "Service Contracts for Commercial-Industrial Business."

Persons planning to attend any or all of these sessions should notify Charles Pesterfield, C-I Secretary, Oil Heat Institute of America, 500 Fifth Ave., New York 36, N. Y.

Gas Asphyxiation Deaths Lead To 2 $30,000 Suits

NORFOLK, Va. — A motel owner and a utility were named in two $30,000 damage suits resulting from the gas asphyxiation deaths of T. E. Clary and his wife last year.

Two suits, filed in U. S. District Court and Law and Chancery Court here, charge that the deaths resulted from the "negligence, recklessness, and carelessness" of Charles D. Day, owner of an Ocean View motel, and the Virginia Electric & Power Co. "in the installation, inspection, failure to inspect, maintenance, and supervision of the gas lines, mains, pipes, conduits, outlets, equipment, appliances, and space heater."

The gas fumes "were known or should have been known to be inherently dangerous," one suit alleged.

Administrators of the estates were named as plaintiffs.

Spot-Heated Golf Range Operates In Wintertime

PORTLAND, Ore. — An electrically spot-heated golf range for winter use is part of a half-million-dollar investment opened in Raleigh Hills subdivision.

Called Golfland, the area also provides golf enthusiasts with a $200,000 restaurant and a "pro-shop." Under study is a year-round 18-hole miniature golf course which, when heated and enclosed, reportedly would be the first of its kind in America.

-Standard 1960 PROFIT EXPRESS!

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"Old-Fashioned Bucks" are the biggest bargain in money today! They are Gift Certificates that let you buy at WHOLESALE PRICES from one of the country's largest mail-order houses (you can use either "Old-Fashioned Bucks" or just plain cash). So all your money is worth at least 30% more!

"Old-Fashioned Bucks" are symbolic of the good old-fashioned *extra* quality and value we build into all our American-Standard warm-air furnaces. You will receive "Old-Fashioned Bucks" with every order you place for American-Standard furnaces.

Send for your *Big 600 Page Wholesale Bargain Catalog TODAY* . . . buy American-Standard furnaces . . . and get your share of these good "old-fashioned bucks"!

NO. 4: Trav-O-Rama!

Win exciting all-expense-paid vacations for two! *You pick where you want to go and when you want to go!* Bermuda . . . Miami Beach and Nassau . . . Las Vegas . . . Mexico City and Acapulco . . . Miami Beach and Havana . . . . Hollywood and San Francisco . . . Jamaica . . . Mackinac Island . . . Colorado Springs . . . Miami Beach!

It's so easy to win, it's undoubtedly the air conditioning industry's most exciting vacation sales contest for dealers. See your American-Standard Air Conditioning Division Distributor today. He'll give you all the details. We can tell you this: the sooner you enter the contest, the easier it is to win. So act fast! You'll like Trav-O-Rama!

American-Standard Products

AMERICAN-Standard

AIR CONDITIONING DIVISION

ELYRIA, OHIO

New Control Said To Cut Operating Costs

Carrier Introduces Wider Selection of Heat-Operated Absorption Machines

SYRACUSE, N. Y.—A wider selection of heat-operated absorption refrigerating machines, featuring a new control system said to reduce operating costs, was announced by Carrier Corp.

The new models will be produced in 20 sizes ranging in capacity from 50 to 1,000 tons. The present series includes 13 sizes with capacities from 60 to 750 tons, according to Hermann C. Hoffmann, general sales manager of the Machinery & Systems Div.

"A new solution valve control system, resulting from more than two years of research, is an integral part of the new design," Hoffmann said. "It offers a substantial saving through lower steam consumption when operating at partial capacity.

"It controls the cooling process by efficiently reconcentrating only enough salt solution to match the refrigeration load, electronically by-passing the rest. Because of this new method of handling the absorbent solution, the machine can return from low to full capacity much more rapidly," Hoffmann said.

In addition to providing minimum steam consumption at partial loads down to zero output, the control reduces the temperature of condenser water leaving the machine and thus sharply decreases scaling, it was stated.

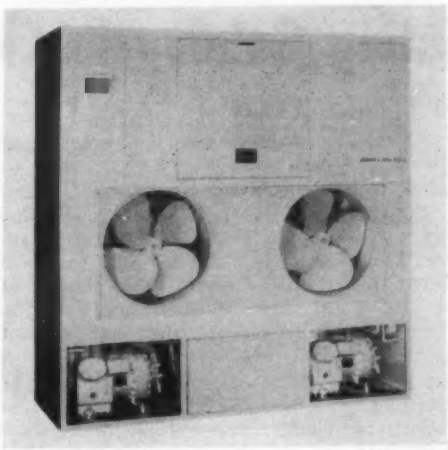
"Steam at 12 lbs. pressure or less is used for the machine's full operating range," the announcement said. "No valves are required to vary the pressure. Since it remains constant, there is no chance of corrosion due to introduction of air into the steam condensate system under partial load.

"The new control system can be installed on existing Carrier machines with only minor adaptation, providing similar benefits for machines now in service.

"The new machine's electric control package also permits operation from a location other than the machine room."

Richard Horst Heads Buffalo Contractors

BUFFALO — Richard Horst was installed president of the Greater Buffalo Chapter of the New York State Sheet Metal, Roofing, & Air Conditioning Contractors' Association.



REFRIGERATED electronic cabinet cooler for military operations is being manufactured by Airflow Co. It is essentially a room air conditioner adapted for use with standard electronic cabinets, according to the manufacturer.

Airflow Offers Refrigerated Electronic Cabinet Cooler for Military Applications

ROCKVILLE, Md.—A new refrigerated electronic cabinet cooler for military applications is now being manuactured by the Airflow Co. here.

Warren C. Hansen, president, says the unit is designed specifically for the military electronics industry and is recommended for use wherever temperature or humidity control is important for efficient operation of sensitive or heavy heat dissipating electronic equipment.

The unit, Hanson explained, is essentially a room air conditioner adapted for use with standard electronic cabinets. Added features include fungus proofing, special finishes, and rugged construction.

The self-contained, air-cooled unit has a capacity of 5,500 B.t.u.h. with 100° F. air entering the condenser coil. It is also available in 18,000, 24,000, and 36,000 B.t.u.h. capacities, according to Airflow.

Other features include automatic temperature control, permanently lubricated bearings, optional by-pass cooling modulation, and optional electric resistance heaters.

Airflow has also designed and is manufacturing a line of self-contained air-cooled air conditioners for use by the military and military electronics industry in a range of 1.5 to 12.4 tons.

There are seven models in the "MAC" line, four with single-stage refrigeration and three with two-stage refrigeration.

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Nothing Beats Copper!
IN COPPER TUBING,
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THIN WALL
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'The Conscience of the Industry'

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They'll Do It Every Time

by Jimmy Hatlo

I'M THINKING OF BUYING A FLEAGLE V-8, RANCID··· I JUST GOT THE BROCHURE OF THE NEW MODELS··· WHAT DO YOU THINK OF IT ?
I'M NOT BUYIN' ONE··· I'M RENTING··· IF ANY-THING GOES WRONG, THEY GOTTA GIVE YOU A NEW CAR··· YOU GOT NO UPKEEP····
LISTEN TO THE FINANCIAL EXPERT··· HE CAN'T AFFORD TO RENT A THREE-WHEEL BIKE LET ALONE A GAS HEAP···
YEAH··· HE SAYS A BIG-SHOT PAL OF HIS ALWAYS RENTS HIS CARS··· RANCID WALKS, SO HE MUST OWE FOR HIS SCOTCH GRAINS····
HE LAUGHS IF ANYBODY PAYS CASH FOR ANYTHING··· BUT WAIT TILL HIS CREDIT CARDS COME HOME TO ROOST···
SPEAKING OF UPKEEP··· HE KEEPS THE LOAN COMPANIES UP NIGHTS TRACKING HIM DOWN···
GETTING THE INSIDE ON MODERN ECONOMICS FROM THE OFFICE CUFF EXPERT····
THANX AND A TIP OF THE HATLO HAT TO DAN HARRINGTON, DALLAS, TEX.
1-7
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How to Earn Higher Profits by Expanding into World Markets

IT'S NO SHOCK nowadays when your next-door neighbor casually mentions that he has just returned from Hong Kong, or if a luncheon partner offhandedly states that he recently has opened branches in Brussels and Melbourne.

American business has "gone international" in a BIG WAY during the last couple of years. Three prime reasons for this get-out-of-your-home-town-rut phenomenon:

(1) Higher profits can be earned abroad;

(2) There's less cutthroat competition in foreign markets (only in America do businessmen believe volume is more important than profits)—and

(3) Suddenly our rapidly shrinking WORLD wants to "go American."

This opportunity has been recognized almost too lately by executives of small or middle-size American corporations.

They have had so many problems "at home." And then, there's that competitor across the street. . . .

Thus, big corporations have stolen most of the thunder and the "plunder" practically by default.

Thanks to prodding by their market research departments, they've set up foreign subsidiaries, factories, licensees, distributors, and representatives—in booming Europe, oil-rich sheikdoms in Nassarville, zooming Australasia (including Japan) and the awakening Africana area.

(South and Central America also offer interesting opportunities which shall be covered in a subsequent study.)

Why should a small-to-middling American enterpreneur get aboard this "gravy train?" Reasons:

(a) Lower taxes, wages, and readily accessible raw materials.

(b) Advantageous transportation (both internal and international).

(c) Money and credit boons—including currency exchange profits, freer availability of insurance in some markets—and NO CAPITAL GAINS TAX, in most nations of the world.

(d) Smaller investments in plant and equipment, larger retention of earnings for reinvestment, more flexibility in dividend schedules, and larger depreciation allowances also are commonplace overseas.

Many "underdeveloped countries" are offering tax holidays, free real estate for industrial facilities, and similar incentives. These factors comprise further "Sweetheart Programs" for ambitiously expanding American enterprises.

An ebullient pool of skilled and semi-skilled workers, eager to work, plus supervisory personnel who have acquired American know-how, abet this Urge to Expand Abroad.

How can some of the smaller concerns in our industry take part in this dazzling scene of action and progress? Internationally-minded corporations can:

(1) Promote exports.

(2) Acquire attractive physical facilities abroad at relatively low costs.

(3) Arrange licensing agreements with independent foreign manufacturers or distributors.

A licensing agreement possesses inherent flexibility. Through such an arrangement it is possible to expand or contract without penalty, and to test markets without going heavily into debt. Footnotes:

Length of the contract should be fixed. Contract also should be executed in the United States and be written in English. Trademarks should be registered (and patent protection applied for) in as many countries as feasible. Sublicensing, likewise, should be tightly controlled legally.

Drafting a master plan for earning money around the world is not simple, nor can it conform to "at home" practices.

Provision must be made for domestic business to go on as usual while international alterations are in progress. This, at least, is the experience of numerous American corporations which have gained good seats on the World Gravy Train.

Chief point of this discussion: If the notion of earning additional money in unsaturated foreign markets seems foreign to you, you may miss the biggest boat of our times.

If you don't get aboard, your competitors will. As a matter of fact, many of them already have.

SWEDISH FIRM SEEKS U. S. HEAT PUMP CONNECTION

Timmermansg 2
Stockholm, Sweden

Editor:

Have just read your very interesting "Heat Pump" issue. Air-to-air units are now going to capture the market in USA, I think. The COP is also good for evaporator temperatures over 32° F. Enclosed I send a copy of my idea of the cow heat pump. As you see, this may be the best heating and cooling solution for farms. Because of that the temperature of the heat source is always plus degrees (in Sweden and Denmark we have about 58-60°) in the cowhouses during the winter and that is very good COP for the heat pump. One have:

Heat for farm buildings, coolness for milk and others, hot water possibility, ventilation of the barn, and drying possibility.

We now have some 7 farms with this cow heat pump. Farms with 30 to 100 cows and with 5 to 14 rooms in the building. And they are satisfied. I may say that after long testings we have a good construction. This idea has been honored in the international exhibitions in Paris 1957 and Brussels 1958 and also in the national exhibition in S:t Brieux, France, 1958.

I beg to ask you please, if you are able to tell me a USA firm which may be willing to cooperate with me as in a gentleman agreement way for manufacturing and selling units, if possible, in USA.

MARTEN BLOMQVIST

INTERESTED IN ELECTRICAL SERIES

Arkansas Western Gas Co.
Fayetteville, Ark.

Editor:

I have been reading your series on "Applied Electrical Theory" with great interest. Please let me know as soon as possible if and when reprints of the series will be available.

WILLIAM J. SMITH,
Htg. & Air Cond. Engineer

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Stands Pat on Full House

Apartment Builder Protects Rental Market With Air Conditioning

BASEMENT VIEW of two of four Mueller Climatrol air conditioners that cool a Milwaukee apartment house.

THE FOUR air-cooled units are located in a window well protected by a grate.

A 30-IN. THERMOBASE diffuser helps maintain proper circulation in the apartment living room. Robert Berg demonstrates.

MILWAUKEE — A builder here is air conditioning his quality apartment buildings with an eye to the rental market.

"We're using year-round air conditioning to make renting easier," declares Joseph Roitburd, president of Roitburd Builders, Inc. "In the event that something happens to the rental market, year-round air conditioning will give us an edge in keeping our occupancy rate up," he adds.

"Also buildings with tenants are easier to sell," he observed shrewdly.

Does he promote year-round air conditioning?

"At the present time, we mention year-round air conditioning in our classified ads when we advertise for renters," Roitburd replied. "So far this is all that's been necessary. We have 100% occupancy for all central air conditioned apartments."

Roitburd Builders soundproofs apartment units, uses good materials, and encourages good workmanship. It has paid off. The company builds more than 125 dwelling units a year and most are rented as soon as they are completed.

Roitburd believes in taking his own counsel. He and his wife live in one of his air conditioned apartments.

That particular building is air conditioned with four Mueller Climatrol units of 22,000 B.t.u.h. capacity each.

The units are mounted side by side in a window well at the rear of the building. A steel grate protects the air conditioners and allows free circulation of air. Walls are of cement block and 6 to 8 in. of gravel facilitates drainage of any water entering the enclosure.

Ducts from the wells carry the conditioned air to the individual apartments where it is diffused through "Thermobase" baseboard diffusers.

Each apartment is heated by its own Mueller Climatrol furnace.

Most of Roitburd projects are in the four, six, and eight-family apartment building class. They range in price from $54,900 to $94,000.

Roitburd commented, "My wife can't conceive of moving into a home that isn't centrally air conditioned. She's lived without it.

"Now she just expects it."

Project Engineer

Midwest Household Refrigeration Manufacturer has opening for Project Engineer. Should have at least three (3) years actual engineering experience in this field.

Must have B.S. degree in either Mechanical Engineering or Electrical Engineering

BOX A6464, Air Conditioning, Heating & Refrigeration News.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

Sky High Sales

Now there are 60 efficient Scotsman models that make from 50 pounds to two tons of ice per day!

High Pressure Heating, Ventilating, Cooling System

Auditorium with Largest Moving Dome To Have 1,200 Tons of Air Conditioning

LA CROSSE, Wis. — A. C. Menke, vice president of The Trane Co., announced recently that 1,200 tons of Trane refrigeration equipment is to be used to air condition the unique new Public Auditorium being built in Pittsburgh.

It is believed that the roof of this circular auditorium will constitute the largest dome ever built. It is certainly the largest movable dome ever designed, the announcement said.

"The mammoth dome roof, some 415 ft. in diameter and 136 ft. high makes possible a spectacular open air stadium that can be converted into a weatherproof, air conditioned auditorium in 2½ minutes," it was stated.

"The stainless steel-sheathed dome is divided into eight sections. Two of these are stationary and six are movable. When the roof is retracted, the six movable sections will slide one over the other on top of the two fixed sections to open the huge arena to the skies. It can be closed at the press of a button in inclement weather and the Trane weather turned on."

All of the public spaces in the auditorium will be air conditioned. While the dome of the auditorium rises above the ground as high as a 12-story building, most of this is air space.

There are three working floors to the structure. The lowest level contains 50,000 sq. ft. of exhibition area, plus two meeting rooms and the main air conditioning equipment room.

The second level will contain the main entrances and box offices, several private offices, and three meeting rooms. The top level will have seats on one side and a control booth on the other.

The air conditioning system is to be a high pressure heating, ventilating, and cooling system. It is designed so that only the portion of the building being occupied will be supplied with conditioned air.

Controls for the air conditioning system are located in the mechanical equipment room on the first level. The engineer on watch will be able to obtain temperature readings at six points in the auditorium, six points in the exhibit area, one point in each of the meeting rooms, and make necessary adjustments by moving switches on the "Supervisory Data Control Center."

Two main outdoor air intakes are located on the northwest and southwest faces of the building on the first level. Outdoor air will be drawn in through louvers, pass through automatic filters, and be drawn under the exhibit floor through two main tunnels, 14 ft. wide and 12 ft. high.

The air will then be drawn by fans from these tunnels to four main risers where it will be drawn into the equipment rooms.

In the various equipment rooms it will again be filtered, heated, or chilled, mixed with recirculated air, and distributed by ducts into the various parts of the system.

Supervisory Data Control Board Used

There are four parts to the system, each of which will be controlled from the Supervisory Data Control Board.

The main arena has a Trane "Open CenTraVac" centrifugal compressor driven by a 900-hp. synchronous electric motor. Eight fan-coil equipment rooms will discharge 280,000 c.f.m. of conditioned air through "Aircoustat" pylons around the periphery of the arena.

When the system is being used this air will then be recirculated through the equipment rooms where it will automatically be mixed with necessary amounts of outside air.

The main exhibition area has a smaller Open CenTraVac driven by a 200-hp. wound rotor induction motor. The total air change in the exhibition area will be 66,200 c.f.m.

The meeting rooms on the first and second levels have a 78-hp. Trane "Cold Generator" reciprocating water chiller which supplies all five rooms. However, the capacity of the Cold Generator will be varied, depending upon the number of rooms in use. Each room on the first level will have air circulated at 4,000 c.f.m., while the larger rooms on the second level will have a change of 12,800 c.f.m.

The offices on the second level will have a 20-hp. Cold Generator for the several suites. The conditioned air will be circulated from two mechanical equipment rooms at 7,200 c.f.m.

Architect of the Pittsburgh Public Auditorium is the firm of Mitchell & Ritchey. The consulting engineer is John W. Mullins & Associates. The Trane air conditioning system will be installed by Limbach Co.

...with SCOTSMAN!

HUNDREDS OF ICE USERS WILL MODERNIZE WITH MODERN ICE IN 1960!

SELLING SCOTSMAN ICE MACHINES can boost your profits to new highs in 1960! Never before has there been such a demand for SCOTSMAN machines! Never before have restaurants, bars, taverns, super markets, hotels, hospitals and scores of other firms launched such a remodeling boom! On every main street in the nation, they are modernizing with modern ice!

You can push your sales upward fast with SCOTSMAN's complete line. There are more than 60 SCOTSMAN models to put money in your pocket. And you get SCOTSMAN's greatest merchandising program in history! It backs up national advertising in major trade magazines read by your customers and prospects.

You'll want to enjoy the profits in SCOTSMAN's greatest year! Send for details on a SCOTSMAN franchise in your area—get the facts on the money-making sales aids. Selling SCOTSMAN ice machines in 1960 can provide *more* profits than you ever earned before!

Restaurants like this form a booming market for Scotsman ice machines. Get your share of these Scotsman ice machine profits in 1960!

Bars and taverns are planning thousands of dollars of new equipment. They'll need hundreds of Scotsman ice machines and accessories!

● **Scotsman dealers earn sky high profits from the finest sales aids in the industry. Write for complete details.**

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With The Low Silhouette

Efficiency, economy, dependability—those three words most effectively describe the operation of Witt Air Cooled Condensers. Available in a wide range of centrifugal blower and fan type models, for single or multiple compressor installations, for indoor or outdoor applications, you'll find a Witt Air Cooled Condenser to handle any size air conditioning or refrigeration system. Winter control systems available for low temperature areas—multiple circuiting available at no additional charge.

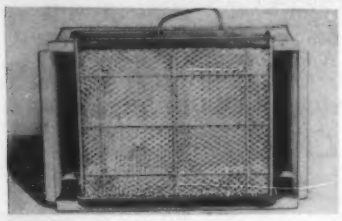
Write For Complete Witt Cataleg

A. H. **WITT** COMPANY, INC.

940 N. Sycamore Ave., Los Angeles 38, Calif.

'Forced Humidifiers' (6)

This is the final article in a series of six dealing with "forced humidifiers"—a relatively new product offering interesting sales possibilities for the residential heating and air conditioning contractor. Broad aspects of the subject have been discussed in the series, including the market, sales, approaches, applications, and service plus specific information about 14 different makes.



Research Products

Research Products Corp., Madison 10, Wis.

Available in two sizes (Models 110 and 112), the "Aprilaire" humidifier designed for installation on the discharge plenum of the furnace is of the evaporating type in which water flows down over a metal pad. A fan is provided to force air through the wetted pad.

A humidistat (furnished) controls operation of the humidifier fan and a solenoid valve in the water line. Presumably the humidifier controls are wired in series with the furnace blower so that the humidifier can operate only during the period when the furnace blower is running.

Drain line is required.

Evaporating capacity at 120° F. plenum temperature is listed as 5.3 lbs. per hour for Model 110; 9.2 lbs. per hour for Model 112.

Skuttle

Skuttle Mfg. Co., Milford, Mich.

The new Model 2001 Skuttle-Defensor humidifier is of the atomizing type employing a motor-driven centrifugal spray wheel or atomizer.

Unit is designed for mounting on the discharge plenum of the furnace or on convenient ductwork.

Use of a humidistat to control operation of the humidifier is suggested, though presumably this would be tied in series with the blower control of the furnace.

Capacity is listed as more than 1 gal. per hour.

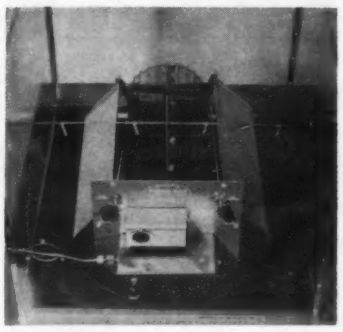
Selck

Walter E. Selck & Co., 225 W. Hubbard St., Chicago 10.

The "Hudee-Aire" available in two sizes as Models H-12 and H-18 is an evaporating type unit employing a bronze wire screen drum that slowly rotates in a water pan.

Humidifier is installed in the discharge plenum of the furnace. (Photo shows a mock-up installation in transparent plenum.)

Water supply is controlled by float valve.



Operation of motor driving revolving drum is normally controlled by furnace blower control, but a humidistat is suggested for systems operating on CAC.

Amount of humidification can also be varied by manual adjustment of two baffle control knobs on each side of unit face plate. Position of these baffles determines how much discharge air passes through drum.

No capacity data is given.

Swan

Swan Humidifier Co., Inc., 149 Bath St., Ballston Spa, N. Y.

Available in several models with or without cabinet, this humidifier is of the evaporating type employing a motor-driven drum revolving in a water pan. There is also a fan in the unit. Illustration shows cutaway model.

Furnished or built-up cabinet

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for Refrigerants, Water, Steam
or Hot Gas
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...permitting the
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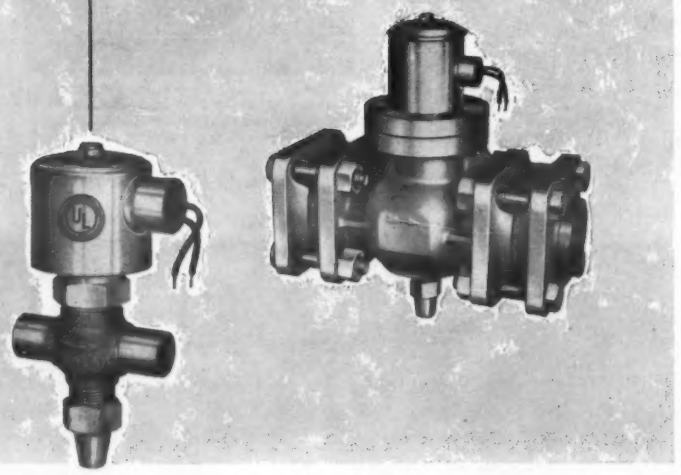

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VALVES

New Madden Forged Brass Body valves for testing, charging, purging and other uses. Also available for panel mounting. Feature easy-grip handles and Teflon seats for positive shut-off.

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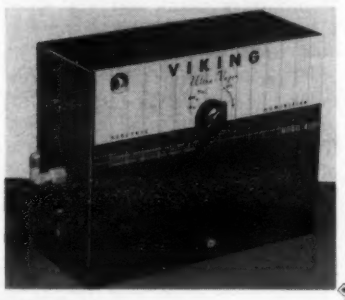
housing unit, when employed with forced warm air system, must be connected by ducts to the air-handling system.

Water supply is controlled by a float valve, but installation of an overflow drain line is advised by the manufacturer.

Use of a humidistat to control operation of unit is customary, the controls being in series with the furnace blower.

Depending on the model, capacity ranges from 10 to 35 gals. per 24 hours.



Viking

Viking Air Products Div., National-U. S. Radiator Corp., 5601 Walworth Ave., Cleveland 2.

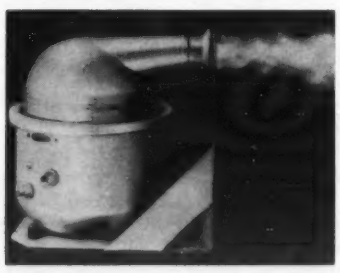
The Viking Model 4200 humidifier is the vaporizing type employing a 600-watt immersion electric heating element to boil off water into the air stream.

It is designed for mounting on the discharge air plenum of the furnace.

Water supply is controlled by a drip-type valve actuated by weight of water in pan.

Operation of electric heating element is normally controlled by furnace blower operation, but a humidistat may be wired in series if desired. Amount of humidification is usually controlled by setting of knob on unit to high, medium, or low position. An off position is also provided on control knob.

No capacity data is given.



Walton

Walton Laboratories, Inc., Irvington 11, N. J.

Walton's Model WF humidifier designed for warm air systems is of the atomizing type employing a motor-driven spray wheel.

It is designed for mounting on the discharge air plenum of the furnace.

A float valve controls water supply.

Operation of the unit is normally controlled by the furnace blower, but a humidistat can be wired in series if desired.

Capacity of Model WF is listed as approximately 10 gals. per day.

(The End)

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

Lennox-Columbus Plans Field Application, Engineering Schools for Third Year

COLUMBUS, Ohio—The Columbus division of Lennox Industries, Inc. has announced the launching of its 1960 series of field application and engineering schools.

Lennox dealers throughout the nine states serviced by this division will be able to attend advanced products and application studies right in their own market areas, it was pointed out.

Each school will include dealers from one or more sales territories within a state, and supervision is to be in the hands of the company's field service engineers and district sales managers.

Lennox-Columbus began experimenting with the possibility of taking yearly schools out into the field approximately three years ago.

It was felt that the convenience of the arrangement would entail less loss of time and less expense to the dealers, and, accordingly would insure larger attendance.

The division also realized that locating schools close to a dealer's market would allow great flexibility in shifting the courses of study to emphasize material that fit the geographical peculiarities of any market area.

"Lennox dealers have received the field schools with considerable acclaim," the division reported. "Attendance by dealers and their sales and service personnel has climbed steadily since the innovation. So successful has been the plan that the factory is entertaining the decision to adopt it on a permanent basis."

The 1960 Lennox application and engineering schools will offer the dealers a number of courses. The curriculum includes: electric heating, heat pump reviews and advancements, air conditioning, oil and gas heating, electrical system components and controls, and the introduction of the company's new product lines, according to the announcement.

Shelby County, Tenn. Dealer-Contractors Get Silver Shield Story--Plan School

MEMPHIS — At a meeting held Feb. 10 at the Union Planter National Bank here, heating and cooling dealer-contractors from throughout the Shelby County marketing area—some 100 of them—got first-hand the story of the Silver Shield concept.

Silver Shield is the name given to the upgrading, promotional, and organizing program developed by the National Warm Air Heating & Air Conditioning Association of Cleveland.

Arrangements for the meeting were made in cooperation with Roy H. McAdam, Jr., McAdam Plumbing & Heating Service, chairman of the Silver Shield Action Committee. Also in attendance were dealer-contractors from a 100-mile radius, including dealer - contractors from Little Rock, Ark.

Out of the meeting will come the formation of a 12-week training school available to every dealer - contractor and their employes in the area.

When you need copper tube fittings look for the Anaconda orange and black carton

COMPLETE RANGE OF TYPES AND SIZES

Brass Fittings for Flared Tubes. In all standard combinations, nominal sizes from 1/8" through 3"

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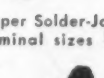
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Cast-Brass Solder-Joint Fittings. Nominal sizes from 1/8" through 12"

Wrought-Copper Solder-Joint Fittings for Refrigeration and Air Conditioning use. Actual OD sizes 3/16" through 4 1/8"

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Designed for your convenience, the new Anaconda carton serves as a handy container on the job, in your truck or in the stock room. Contents are clearly indicated so you can quickly spot the fittings needed.

These new cartons are being placed in the hands of Anaconda distributors as quickly as possible, but whether in the new package or not, Anaconda Fittings are the best you can buy. On your next copper job, use products that you can depend on—use Anaconda Copper Tubes and Anaconda Fittings.

HAVE YOU OUR CATALOG, "Anaconda Copper Tube Fittings and Valves"? If not, write for a copy today. It lists, with illustrations and roughing-in dimensions, the complete range of Anaconda Fittings in sizes from 3/16" through 12" for all copper tube applications—general plumbing, heating, air conditioning and refrigeration. Ask for Anaconda Publication C-12. Address: The American Brass Company, Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ontario, Canada. 5806

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What's Going On in Commercial Refrigeration

News of Markets, Products, Methods

Hilson Changes Name, Moves to Cincinnati

CINCINNATI — Hilson, Inc., formerly located in Newport, Ky., manufacturer of "Servette" automatic ice vendors, has been acquired by a new corporation and the name of the firm changed to Hilson Industries, Inc., it was announced.

The new company is located at 5300 Vine St., Cincinnati, where all offices, sales, and manufacturing facilities will be combined in one building with its own railroad siding, to provide for expanded distribution.

In addition to manufacturing and distributing the Servette, the firm will also act as distributor for various type of refrigeration equipment.

Irving S. Benjamin heads the new corporation. He was formerly vice president of The Red Top Brewing Co., Cincinnati, and president of the Canada Dry Bottling Co., Dayton. Gerald E. Hileman, former president, has been elected executive vice president.

The Hilson Servette, which makes and dispenses ice cubes and chipped ice, is a walk-in with a patented vending mechanism.

Hussmann Reports Record '59 Sales, Eyes Local Chains for '60 Gain

ST. LOUIS — Hussmann Refrigerator Co. reported that sales in 1959 rose to a record high of $40,642,847, compared with $36,880,586 in 1958, and net income increased slightly to $2,811,307, or $2.15 a share, from $2,627,739, or $2.05 a share, a year earlier.

W. B. McMillan, president, said every division of the company's business and every product line contributed to the gain over 1958, with the exception of the aircraft division. The latter terminated manufacturing about the middle of the year and has since been liquidated.

Profits last year, McMillan pointed out, were adversely affected by start-up costs at the firm's New Jersey plant, higher costs caused by the steel strike, and reduced profits from the aircraft division.

He added that Hussmann's Canadian company had its largest and most profitable year and that the Duro-Consolidated subsidiary recorded a big increase in sales.

McMillan noted that a new 27-acre plant site was acquired recently in the San Francisco area. "This property, at Hayward, Calif., is located close to our Menlo Park plant and well situated to ultimately serve the Pacific Coast area," he said.

"There are no plans for the immediate development of this property, but it was purchased to make possible the ultimate objective of a complete, fully-integrated plant producing all products for the West Coast."

Regarding the outlook for this year, the report said, in part: "Announced programs for 1960 of the major corporate chains project about the same new store construction, but with an increase in the amount of major remodeling of existing stores.

"We anticipate, however, that the largest amount of increase in sales will come from food stores affiliated with voluntary or cooperative groups, or by local chains."

IRS Informal Ruling Cuts Store Equipment Depreciation Schedule

CHICAGO — The Internal Revenue Service has agreed to shorten depreciation schedules on equipment and fixtures used in modern supermarkets, according to the Super Market Institute.

The SMI said the action will permit supermarket operators to write off much of their equipment in seven or eight years instead of the 12 to 15-year schedule the IRS has been using since 1942.

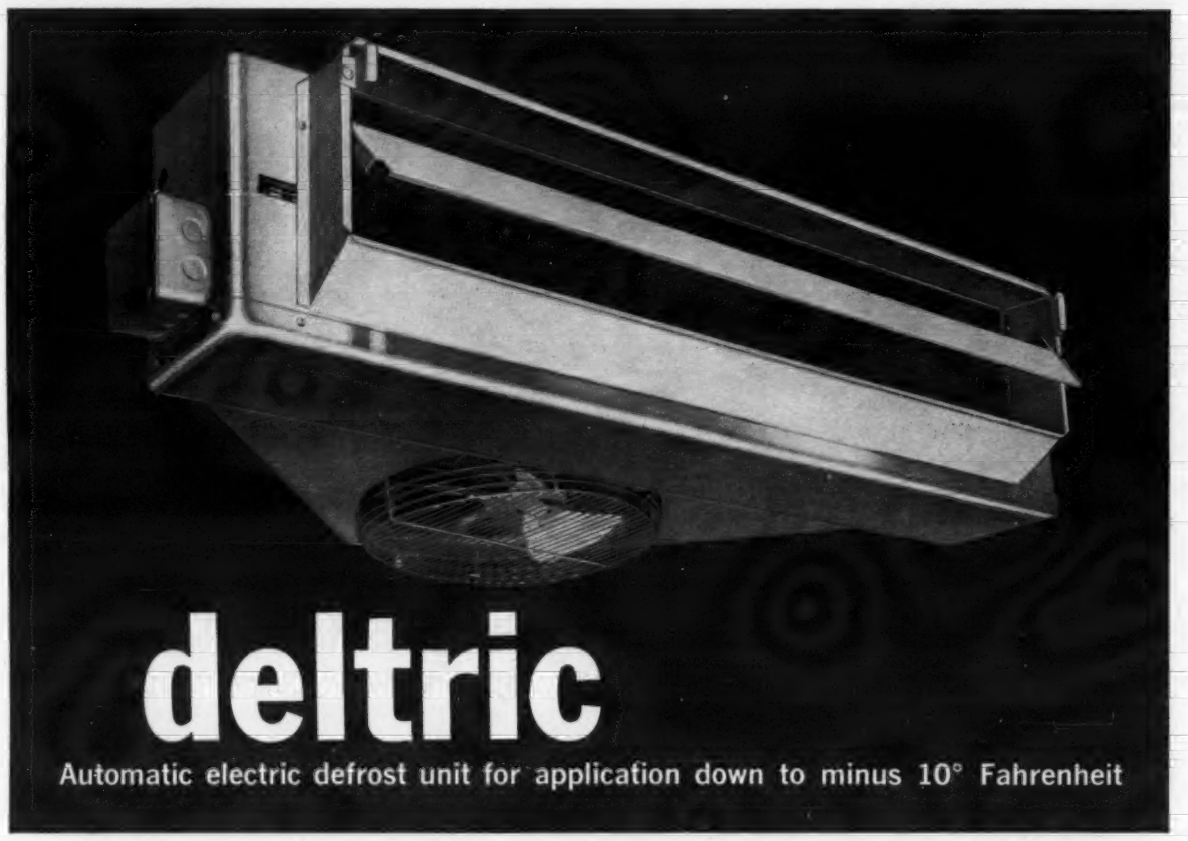
The action—an informal ruling by Dana Latham, IRS commissioner—is said to represent a victory for the SMI and other industry groups who have been trying for several years to get the IRS to make this move.

The agency has agreed with the SMI that the 18-year-old Bulletin "F" is obsolete and does not cover equipment used in modern stores. IRS also reportedly agreed with SMI that the supermarket is not a grocery store as covered in the bulletin.

Operators now can use their own experience in taking equipment depreciations, it was understood. If inexperienced in this matter, they can turn to "industry experience," which probably will be the SMI report developed by the SMI in recent years, the institute indicated.

Thus, according to the SMI study, checkout counters and meat wrapping machines can be written off in seven years; refrigerated display cases, cash registers, automatic computing scales, power meat saws, and grocery shelving in eight years.

The new interpretation will result in more money for operators to use in their businesses, since accelerated depreciations will mean higher expenses and lower income taxes.



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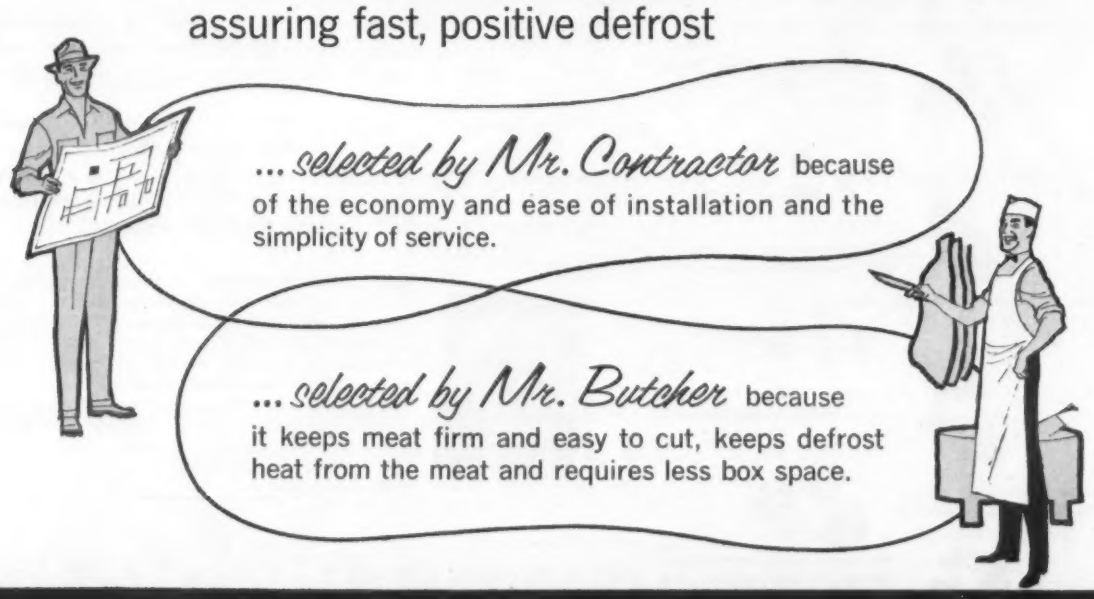
Exclusive Thermovane holds heat at coils assuring fast, positive defrost



... *selected by Mr. Contractor* because of the economy and ease of installation and the simplicity of service.

... *selected by Mr. Butcher* because it keeps meat firm and easy to cut, keeps defrost heat from the meat and requires less box space.

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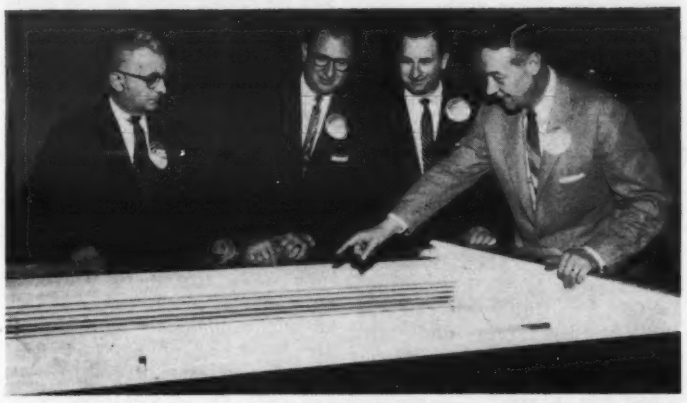
1959 Was Biggest Year, 1960 Should Be Bigger, McCray Tells 3-Day Sales Meeting

FORT WAYNE, Ind.—"1959 was the biggest year in McCray's long history and we fully expect 1960 to be even better."

This was reported by J. W. Krall, president of McCray Refrigerator Co., Inc., at the firm's three-day national sales meeting staged recently in the Van Orman hotel here. Last year showed a substantial increase in chain store and distributor business of about 20% over 1958, it was stated.

H. E. Cooper, McCray general manager of sales, and W. L. Herald, advertising manager, were in charge of arrangements for the meeting. Nationally-prominent authorities in various fields participated, company department heads were active in the program, and distributors from many areas took part in panel discussions.



J. W. KRALL, McCray president, points out the features of a new piece of McCray equipment to distributors at the McCray national sales convention. (L. to r.) C. F. Horner, Standard Agencies, Ltd., Montreal, Que., Can.; Charles J. Scatena, Scatena York Co., San Francisco; Richard A. Rauch, Gotham Equipment Corp., New York City; and J. W. Krall.

200 Attended Meeting

Some 200 McCray distributors and salesmen were here for the sessions which began with tours of the McCray plant in Kendallville and visits to Fort Wayne supermarket installations. Other first-day events were simultaneous, two-hour meetings on management (a panel discussion) and service in the evening.

The keynote speech was given by F. Harold Van Orman, Jr., Fort Wayne, vice president and general manager, Van Orman Hotels. Other speakers and their subjects:

"Progress of McCray," J. W. Krall; "Knowledge of Product Is Sales Power," H. E. Cooper; "The Future of the Independent Grocer," Don R. Grimes, president, Independent Grocers' Alliance; "Working with Wholesale Grocers" (panel discussion), J. Kent Helland, sales supervisor, Fairway Foods, Inc., St. Paul, Minn.; "Approach to a Wholesale Grocer Through a Distributor," Erwin H. Miller, sales development.

Engineering discussion and product features, Cooper and Krall; "A Look Into the Future," W. V. Sowers, trust officer, Fort Wayne National Bank; "Awareness to Light," Alfred Makulec, lighting specialist, General Electric Co.; "Establishing the Dollar Goals for Successful Store Operations," Dr. Eric C. Oesterle, associate professor of marketing, Dept. of Agricultural Economics, Purdue university.

"Imagineering," William Benjamin, Benjamin Store Fixture & Contracting Co.; Flexible Financing and Leasing," Carl J. Zink, vice president in charge of industrial financing, Commercial Credit Corp.; "All the Way with McCray," Krall; "Tell Me Quick and Tell Me True," Edward McFaul, salesman and teacher, who was the featured banquet speaker.

Panels Discuss Buying and Selling

There were also panel discussions on buying from a distributor and selling a turn-key job.

The present standing and future of independent retailers came in for much discussion. It was the general opinion that they are healthy and getting healthier.

Much credit for this growth was given to the efforts of the voluntary and cooperative groups to upgrade their member store operations.

A considerable factor in this upgrading involves commercial refrigeration, and ways and means were discussed for better working relations with wholesalers to bring more refrigeration business to the McCray organization.

Grimes and Helland were specific and helpful in this connection, it was pointed out.

Makulec in his talk on "Awareness to Light" and Dr. Osterle's talk on how to sell more to every customer who walks into the store gave the distributors valuable information which they can pass on to customers for better planning and profits.

Sowers, at a dinner session, developed with facts his opening remarks: "Seldom has there been such a unanimity of opinion about the pattern for business activity in our country as there is for the year 1960. With few exceptions, our expert economic analysts agree that we are beginning the best year that the people of this country have ever enjoyed."

WALL CASES

Howard manufactures a complete line of commercial refrigerators and freezers. Priced right, provides more daily sales and profits.

Territories for distributors and manufacturers' agents.

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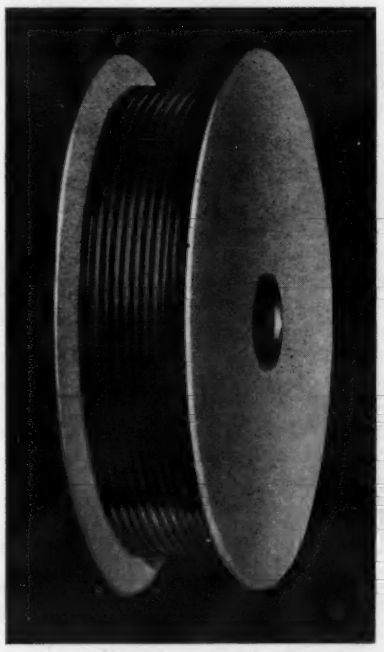

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Level-Wound Coils

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WOLVERINE LEVEL-WOUND COILS

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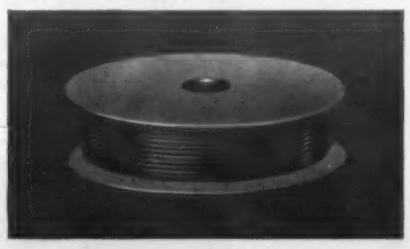

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PLANTS IN DETROIT, MICHIGAN AND DECATUR, ALABAMA. SALES OFFICES IN PRINCIPAL CITIES.

Installation & Service Practices In Commercial Refrigeration

One of a group of discussions on several phases of the installation, operation, and servicing of commercial refrigeration equipment.

By Frank J. Versagi

Multiplexing

How about the multiplexing of commercial refrigeration units?

First, the term must be defined. To some, multiplexing signifies placing a dairy case and a frozen food case, say, on the same condensing unit. To most, this practice is *verboten* and multiplexing means putting more than one case *of the same type* on a single condensing unit. The practice is more frequently referred to as "multiple hook-up."

The former practice is obsolescent. Occasionally — almost always in a small store where the job has been "engineered" by the owner and a buddy installer/serviceman — one may find a frozen food case, a cooler, a meat service case on the same unit. And in such cases there is a continual struggle to maintain refrigeration balance among the several fixtures.

Consider that frozen food case cuts out at 4-in., cuts in at 10 p.s.i.; an ice cream cabinet cuts out at 10-in.; in at 1 p.s.i.; an open meat case cuts out at 8-10 p.s.i.; cuts in at 30 p.s.i.

The NEWS visited one multiplexed installation with a serviceman who was making his *twentieth* call on the setup in three years. Even with complex control gadgetry, it is difficult to obtain and maintain proper balance among such diverse fixtures. In this instance, product load and usage were so erratic that lasting control was next to impossible.

Older Type Multiplexing Is On Way Out

Fortunately, this type of multiplexing is on the way out. In fact, visiting with commercial manufacturers and with supermarket operators about the country, the NEWS has found not a single installation of this older type of multiplexing in jobs put in the last several years. Indeed, two manufacturers state flatly that they refuse to do such multiplexing even where the customer thinks it desirable.

A possible exception — and here opinion is far from unanimous — is placing frozen food and ice cream cases on the same unit. In such instances, added controls, like solenoids and thermostats, are needed to maintain proper refrigeration balance under all conditions.

Concerning the more common multiple hook-ups—the placing of more than one case of the same type on a single unit—there is also a variety of opinion.

One manufacturer points out "We have customers who will not consider installing two cases on one condensing unit; others are willing to put two, three, four fixtures on the same unit, and they claim complete satisfaction."

Another commercial manufacturer definitely limits such multiple hook-ups to three cases. "In the event of mechanical failure, there is the possibility of substantial product loss unless ample storage is provided, which is not usually the case," he warns.

Cost Is Primary Reason For Multiple Hook-Up

The primary reason for multiple hook-up, of course, is cost. Joining several similar cases on a single system is the most inexpensive method of installation, since considerable savings are realized in initial cost of equipment, lines, refrigerant, and in subsequent operating costs. As an example, if a store has a line-up of four dairy cases on one condensing unit, there is a significant savings over a more soundly engineered installation of two condensing units—two fixtures to a unit.

Problems Arise Even In New Multiplexing Form

Problems do arise even in this form of multiplexing. The practice of running refrigerant lines to and from the several fixtures through a common trench or through other cases can lead to

(Concluded on next page)

Contractor Comments On Installation Practices

I would like to comment from the point of view of a refrigeration contractor on your article dealing with installation/maintenance responsibility.

You state that chain food store installations are contracted for in most instances as a result of competitive bidding with the job going to the lowest bidder. I feel this is the usual practice but I also feel that herein is the cause of the usual sloppy and unsatisfactory installation results.

It is my opinion that no matter how detailed the installation specifications are made they will never guarantee a good installation job. There are too many things involved that just do not lend themselves to being put down on paper. The skill, integrity, and conscientiousness of the installing contractor are the things mainly responsible for a good job.

As long as food chains give primary consideration to price in selecting their installer, this situation cannot be changed.

On the other hand, food store equipment manufacturers are to some extent responsible for this situation. In nearly all instances manufacturers have abandoned all pretense of demanding that their chain customers maintain a competent and complete service and installation department. In the light of this, manufacturers should in their own defense sell national chain accounts on an installed and guaranteed basis.

LEON FETZER
Robenalt Refrigeration
Tiffin, Ohio

Leaves more useful shelf space available in reach-ins, back bars, and under-counter cabinets because it has an *extremely flat, thin silhouette of only 4½".*

OTHER TOP-AIRE FEATURES ARE:

- **Angled fitting so drain can be run through back or bottom of cabinet**
- **Knockouts in top, plus opening in rear, for bringing out connections**
- **Adequate space inside cabinet for expansion valve to be attached . . . out of sight**
- **Life-lubricated, impedance-protected motor**
- **Attractive grained aluminum cabinet.**

Available in three capacities: 1000, 1300 and 1700 BTU/hr at 10° T.D. based on entering air temperatures. For complete information, write for BULLETIN No. 80.

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Aluminum and Brass Corporation
Betz Division • Danville, Illinois

COMMERCIAL REFRIGERATORS
for handlers of food & beverages

If you sell to any segment of the food industry — hotels, clubs, hospitals, institutions, retailers, etc. — then it's important for you to acquaint yourself with Coldin Showcases. The new Coldin line is the most extensive on the market . . . powerhouses for sales and profits . . . for the retailer and the dealer.

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(Concluded from preceding page)

a problem sometimes referred to as "cross control." The several lines in contact with each other or passing through a case undergoing defrost may be exposed to undesired heat exchange effects with resultant adverse effects on the system pressures. Cross control has been great enough to affect adversely the pressure controlled cycles of one or more of the units in the multiple hook-up.

Specific Problem and . . .

As a specific example of this difficulty, consider the typical installation described in a test question put to its servicemen by one firm:

"There are six 12-ft. meat cases, each a group of 3 operating off a 2-hp. condensing unit. Refrigerant lines run inside the case, all four lines exiting from the end case in the line-up, through a trench, then to the machine room. Both systems are equipped with time-pressure defrost controls. Explain the problem which is created relative to the operation of these controls.

. . . . The Answer

"Answer: The two controls are seldom synchronized so that defrost periods are never initiated and terminated simultaneously. Pressure in either system will respond to the coldest point of the refrigeration lines, hence cross controlling occurs, and a prolongation of the defrost period on one of the systems will result."

Installers avoid cross controlling by placing insulated spacers between the several lines. Some commercial cases are so designed as to prevent the running of several lines through the cases, themselves, but many fixtures are designed to allow internal connection of lines in multiple hook-ups.

Supermarket Operators Have Own Ideas

Supermarket operators frequently have their own ideas on multiplexing. As indicated earlier, some flatly refuse to multiplex at all; others allow it to some degree. Frequently they base their positions on past experience and make such statements as "We'll allow four normal temperature cases on a unit, two frozen food fixtures, and we won't multiplex ice cream cabinets at all."

A development which will have to be considered in multiple hook-ups is the "two-temperature" or "multi-temperature" case—a fixture which can be adjusted to hold dairy, meat, or frozen food temperatures. When self-contained, the multi-temperature case poses no problem. If adapted to remote condensing units and multiplexed, the multi-temperature case will have to operate off a low temperature compressor to allow use of its adjustable range of holding temperatures.

Line sizing, which is discussed in another article in this group, becomes extremely important when fixtures are multiplexed. While all manufacturers are very specific in their line size recommendations under all conditions, far too many installers trust to memory or previous experience with the frequent results of improper operation and chronic service problems.

New Quarters Will Allow Mowat To Add Heating Line

SAN FRANCISCO — John Mowat Refrigerators, established in 1908 and said to be the oldest refrigeration firm in this area, moved on Feb. 15 to a new, modern, especially-designed two-story building at Marin and Kansas Sts., one block from San Francisco's "Skyway" freeway, and from Army St.

President Robert D. Mowat said the new building has 4,000 sq. ft. of showroom space. Mowat is distributor for C. V. Hill & Co., Inc.

With the new building Mowat plans to handle additional affiliated lines, including the heating part of air conditioning.

Showroom and warehouse have 18 ft. clearance. The second floor has drafting rooms, conference rooms, and light storage, a total of 5,000 sq. ft. Ground floor has 20,000 sq. ft.

A large illuminated sign on top of the building will be clearly seen from the Skyway freeway.

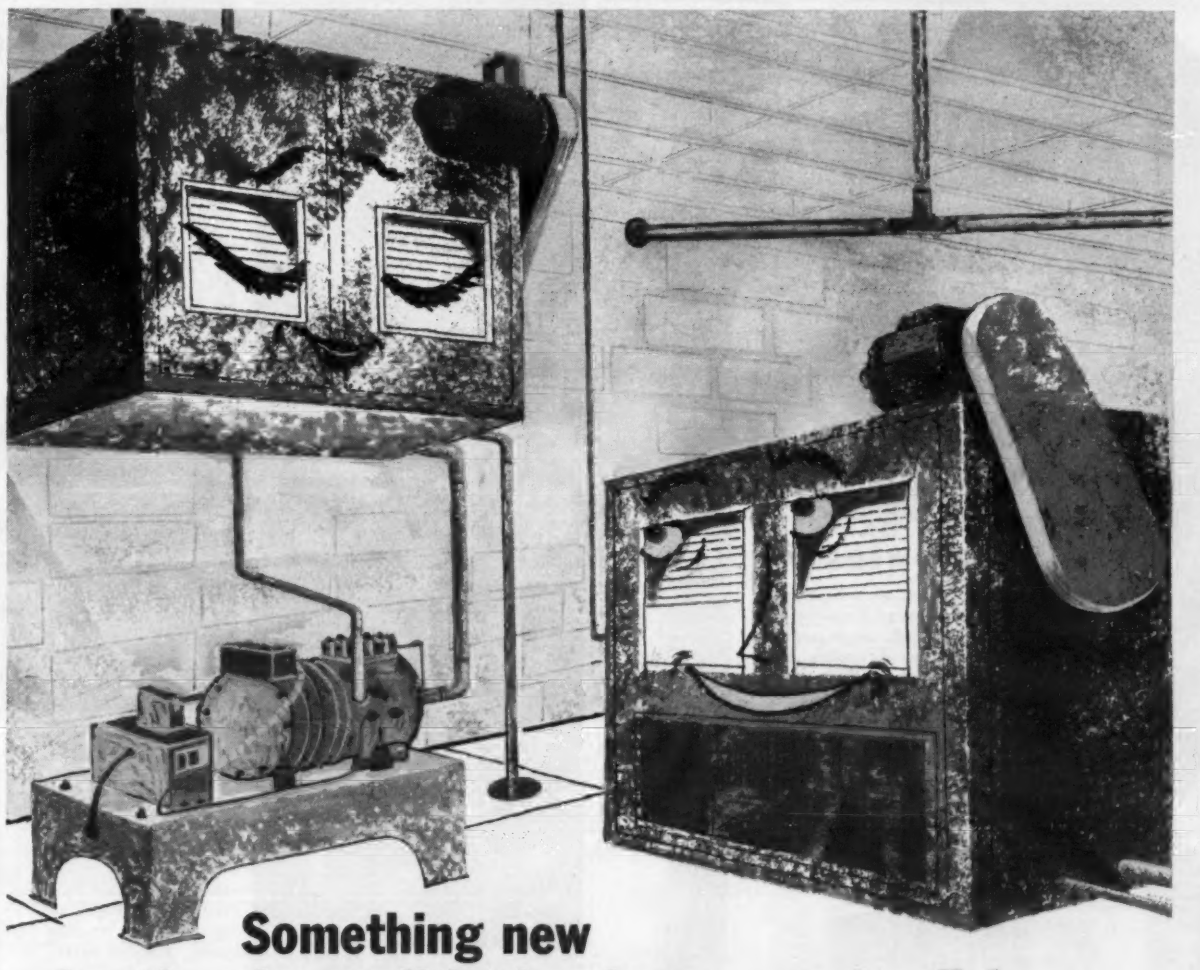
Mowat heads the company's staff, with Robert McGuire sales manager for the San Francisco area, C. P. O'Day for the San Jose area, and Tim Murray for Marin county. Chief engineer is Robert Walthew, graduate mechanical engineer. Gustav Lindblom is office manager.

'New Ideas on Ice' Is Title of Scotsman Ice Machine Booklet

ALBERT LEA, Minn.—A new 48-page booklet describing ice-making machines and how to use them to increase profits is being offered free on request by the manufacturer of "Scotsman" ice machines.

Entitled "New Ideas on Ice," the booklet contains considerable information — including more than 80 illustrations—on practical applications of ice and on the machines that make it. More than 40 different types of business which are now using ice machines to profitable advantage are covered.

To get the booklet, write Scotsman Ice Machines, Queen Products Div., King-Seeley Corp., Albert Lea, Minn.



Something new for the air conditioning boys . . . and coils!

Now, Air Handlers from Halstead & Mitchell in 880 to 47,500 CFM Range

AH Series Air Handling Units

Before you buy any Air Handler, check and compare these new H&M units, feature for feature and price for price.

See how easily H&M Air Handlers accommodate matching cooling and heating coils, with space for up to 12 rows of coil depth overall! If you like, H&M coils (from 2 to 68 square feet of face area) can be factory-installed, leaving protruding connections on either side for easy hook-up. Halstead & Mitchell makes the coils you need to match: direct expansion, chilled water, hot water, standard or non-freeze steam. Filter sections are also available.

Performance? H&M Air Handlers deliver air against static loads up to 2-inches water gauge, and do it quietly.

Construction? They're the sturdiest units in the field. Forward curved centrifugal blowers are enclosed in a heavy gauge cabinet featuring formed steel corner posts and flush mounted panels.

Price? Just ask your H&M distributor. You'll be pleased. He has all the engineering information, too. Or, you can write for Bulletin AHU-100, Halstead & Mitchell, Bessemer Building, Pittsburgh, Pa.

HM Halstead & Mitchell

Air Handlers • Finned Coils • Air-Cooled Condensers • Cooling Towers • Water-Cooled Condensers

Your Customers' Best Buy. . .
(and yours, too!)
IDEAL
Speed-Freeze
PRODUCTS

BEVERAGE COOLERS
unexcelled storage capacity with Ice Cube Makers
•
OUTSTANDING SECTIONAL METAL WALK-IN COOLERS

IDEAL
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What Was New In Dallas

On this and succeeding pages are pictures of a few of the new and newsworthy products displayed at the Second Southwest Air Conditioning Exposition in Dallas, Feb. 1-4. More will be printed in later issues. Another group appeared in the Feb. 15 Issue.

Time did not permit photographing products at all the more than 200 booths. If any exhibitor displayed a new item that was not photographed by the NEWS and which has not been covered in recent news stories, he is invited to submit a photograph and description.

SAFETY OF new infrared radiant quartz industrial heater is demonstrated by W. Brewster Ely (r.), Dallas factory representative for Engelhard Industries. He shows that splashing the quartz tube presents no danger as all contacts are completely covered. Gerald M. Malone, sales manager, corroborates his claim.

ALUMINUM SUPPLY register, single deflector with shutter, is examined by James Breslow (l.), president of Warren Industries, Inc., as Arthur H. Cayer, vice president for sales of Warren Register & Grille, Inc., holds it up for inspection.

Q-AIR FLOOR which uses the floor structure itself for air distribution and mixes air at the terminal box under window sill or at the ceiling is being explained to F. M. Hewitt of Baltimore (center) by Donald G. Havlish, Q-Floor product manager for H. H. Robertson Co. (l.) and A. H. Sawyer, supervisor of mechanical sales for Robertson.

NEW AIR-COOLED condenser with coils front and back and with top discharge is checked by Jack Herweg, engineer for the Tubenfin Coil Co. Adding coils to the sides will double capacity of the unit, he said.

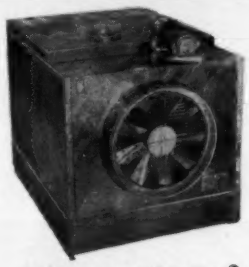
10-HP. REMOTE air-cooled condensing unit of 107,500 B.t.u. capacity shown by Southwest Mfg. Co. is examined by (l. to r.) Claude Betsill, Georgia representative for Southwest; Jim Whitehead of Tul-Sun Co., Tulsa; and Don Smith, Oklahoma representative for Southwest.

NEW ELECTRONIC filter only 2 in. thick will be ready for market by April 1, William R. Murdoch, commercial sales manager for Trion, Inc. (l.), tells David Falk, Michigan representative for Trion.

FILLING OUT its unit heater line, Gaffers & Sattler has introduced a new gas-fired duct heater featuring a glass-lined heat exchanger. Bill Pecena of Lone Star Supply & Equipment Co. gets more details from Peter Chabre, vice president, marketing, for the manufacturer.

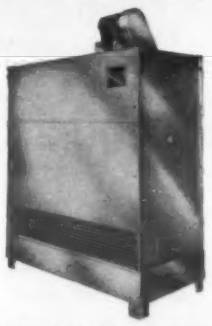
5-TON HEAT PUMP that is field changeable from horizontal to vertical air handling at no extra cost is shown to J. Clifton Young of New Orleans Public Service Co. (l.), by Howard L. Paulus, manager of the Refrigeration Div., International Metal Products Div., McGraw-Edison Co., and Ralph Thomas, chief engineer of the division.

it's MARLEY for



AQUATOWERS®

World's best-known steel mechanical draft cooling towers. Heavy-duty mechanical equipment, close-packed filling cube, exclusive diffusion deck and hot dip galvanized finish result in unequalled performance, economy and durability. 14 models from 3 tons up; dual units extend capacities to 120 tons nominal.



AQUACOOLERS®

Indoors or out, in minimum plan area, AquaCoolers can be easily and economically installed. Performance is full-capacity; operation is whisper-quiet and leakproof. Heavy gauge steel casings and basins, as well as centrifugal blowers and scrolls, are hot dip galvanized for extra service life. 10 models available, 5 to 90 tons, nominal.

OTHER MARLEY PRODUCTS:
SPRATOWERS® . . . for natural draft cooling
WOOD AQUATOWERS® and PERMATOWERS® . . . for longest life in corrosive atmospheres
DRICOOLERS® . . . air cooled refrigerant condensers

OUR BARGAINS JUST CAN'T BE TOUCHED

That's because they're so very *hot*. Every month Harry Alter's buyers fill our famous Flyer with all kinds of special closeout bargains carefully picked from manufacturer's surplus. You can save 50% or more, from the regular wholesale price.

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SAVE MONEY, time and effort by ordering from our new *Dependabook*, the most complete catalog of all. 232 pages. Over 10,000 items carried in stock. *Wholesale only.* Your orders filled really fast by mail, or they can be picked up at one of our six big warehouses.

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FREE PARKING AND FAST COUNTER SERVICE AT THESE 4 BIG WAREHOUSES

MULTI-ZONE packaged water-cooled air conditioner of 25 tons' capacity exhibited by American Standard Industrial Div. is examined by John W. Baker, Dallas contractor (l.). R. L. Johnson, Industrial Div. engineer, explains about its hot and cold deck with multi-zone dampers.

ATLAS PACKAGED boiler of 125-hp. capacity is explained to Weldon Kite of Denver (l.) by J. L. Dowd, regional manager for Titusville Iron Works.

REMOTE GAS-FIRED, air-cooled air conditioners for 3 tons' capacity captures the attention of (l. to r.) "Chuck" Black of Tersco, Ft. Worth; Keith E. Schneider of Bryant-Texas, Bryant distributor for Dallas-Ft. Worth area; Curtis L. Love of Love Refrigeration Co., Ft. Worth; and Taylor Walker of Tersco. The unit is also available in 4½-ton capacity.

PORTABLE HUMIDIFIER and builder shell for through-the-wall air conditioners featuring aluminum louvers and no screw holes to rust were shown by Coolerator Div., McGraw Edison Co. Posing with the new products are Fred Peck, Coolerator representative in Houston (l.) and H. T. Buehring, Coolerator sales manager.

SELECTIVE SEQUENCER for new Stewart-Warner electric furnace that modulates through nine stages is demonstrated by Gus Wolfe, special accounts manager for Stewart-Warner Corp. (l.) and Harvey Painter, "Saf-Aire" product manager.

CASING OF new Fraser-Johnston gas furnace is designed specifically for immediate or later installation of cooling coil, Paul S. Werner (l.) of Tejas Supply Co., Houston, learns from Don McDaniel, sales engineer.

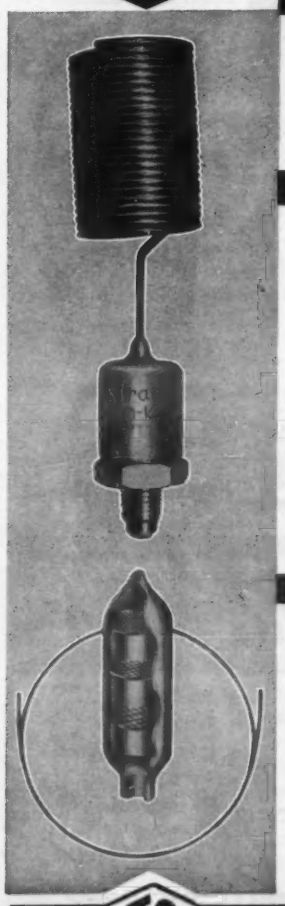
NEW PAYNE "HP" heat pump featuring hermetically sealed refrigeration circuit with two service process valves is scrutinized by (l. to r.) Harry Presseur, Dallas district manager for the Payne Co.; Glenn Gray, Austin district manager; and Joseph Hoff, Southern California sales manager.

ALL ALUMINUM air handling unit for apartments are now going into production, James D. Harden, president of International Mfg. Co. (center), tells William H. Moler, Texas representative for International (l.) and A. W. Morgan, Corpus Christi contractor. The unit is made in 600 to 1,200 c.f.m. capacities.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

NOW by WATSCO

a STRAIN-O-KAP® for all units from 1/20 H.P. to 1 H.P.



STRAIN-O-KAP® AND STRAIN-O-KAP® SENIOR
modern refrigerant metering devices

STRAIN-O-KAP—Part No. S-1 and S-2

A strainer capillary combination for refrigerators from 1/20 H.P. to 1/5 H.P., water coolers 1/4 H.P. and less, and freezer cabinets 1/3 H.P. or less. May be used with all refrigerants. Replaces high side floats, low side floats, expansion valves, restrictor tubes and original capillary tubes.
Strainer features Watsco's exclusive three stage straining action. Use part No. S-1 for solder installations and part No. S-2 for flare installations.

STRAIN-O-KAP SR. — Part No. SR-6

For low, medium or high temperature units from 1/3 H.P. to 1 H.P. using refrigerants 12 or 22 exclusive. Triple mesh strainer is designed for 3/8" sweat connection. Incorporates a reducing bushing for installations on 5/16" and 1/4" liquid lines as well.

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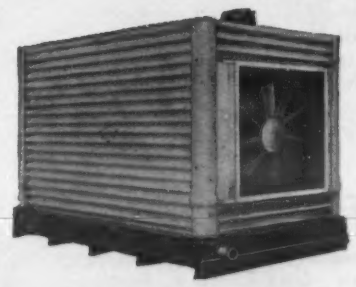
PERMATOWERS®

Permatowers offer permanent performance in *any* climate, due to liberal use of inert materials. They also afford a wide latitude in location because air discharge is vertical . . . operation is remarkably quiet . . . and they are virtually immune to corrosion. Performance and simplicity result from famous Double-Flow® design. 11 models in capacities ranging from 5-75 tons, nominal.



WOOD AQUATOWERS®

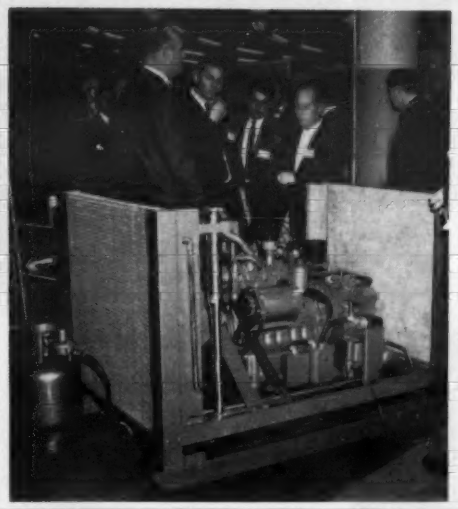
Forced draft design with vertical air discharge permits installation in confined areas often unsuitable for other towers. Longer service life under the most rigid operating conditions is assured by framework of lifelong redwood, asbestos cement board casing, and hot dip galvanized steel components. 5 models available with nominal capacity of 20-50 tons.

OTHER MARLEY PRODUCTS:
SPRATOWERS® . . . for natural draft cooling
STEEL AQUATOWERS® . . . for mechanical draft cooling
AQUACOOLERS® . . . for service indoors or out
DRICOOLERS® . . . air cooled refrigerant condensers

What Was New

At the Southwest Exposition

SLIDING AUTO-FLO's new green-colored permanent washable filter with germicide impregnated in the material onto its metal frame, Milton Perlman, president of Auto-Flo Corp. (l.), demonstrates for Bud Mackenzie of H & H Tube Co. Filter rests on new Auto-Flo portable power humidifier that will add 4.5 pints of moisture to the air per hour.

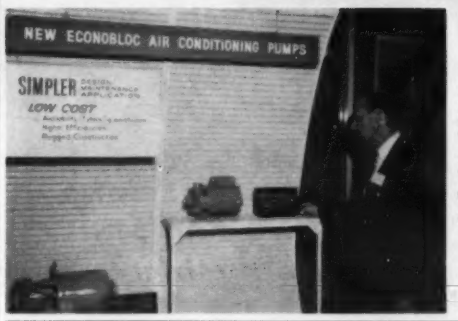


NATURAL GAS operated condensing unit for air conditioning applications attracts a crowd at the booth of Gas-Cool Div., Vector Engineering Contractors, Inc. E. F. Bilger, manager of the division, tells visitors about the unit.

EVAPORATIVE CONDENSERS and cooling towers of up to 700 tons capacity in one package are now being marketed by Baltimore Aircoil Co., says John Engalitcheff, Jr., president.

DEMONSTRATION model of a 5-ton gas engine driven condensing unit, a joint development of the American Gas Association and Continental Motors Corp., was shown for the first time as a complete unit with all components. Neal Culp, of Cushing, Okla. assembled it.

ROLL FILTER combined with electronic air cleaner is tested by Roscoe Capers of Joiner - Meade - Capers of Dallas (l.) and D. J. Conroy, sales manager for Electro-Air, Inc.



NEW ECONOBLOC air conditioning pump with capacities to 75 g.p.m. and heads to 110 ft. for small applications was displayed by Worthington Corp. Blaine P. Oliver of A. M. Lockett & Co., Ltd., New Orleans, examines a model.

Mighty METRO does it again!

INCREASES THE EFFICIENCY...LENGTHENS THE LIFE...
OF AIR CONDITIONING SYSTEMS!

METRO DESCALER

Designed especially for emergency removal of scale deposits – and slime growths too – that cause high head pressures and electrical overloads. A safe, easy to use dry acid powder product. Quickly restores evap condensers and cooling tower systems to top operating efficiency. But don't wait for emergencies. Order your supply of *Metro Descaler* NOW in convenient 10-lb. polyethylene bags shipped in 50 and 100 lb. disposable drums. Also available in bulk in disposable drum sizes up to 300 pounds.

METRO Ez TREAT

The ideal maintenance product to follow up cleaning with *Metro Descaler*. *Metro EZ Treat* is a complete water treatment in one package. Controls scale, corrosion, slime all season long. Keeps equipment operating at peak efficiency. Simple to use. No messy mixing or measuring. Comes in disposable feeder-cans that dispense the chemicals gradually, automatically into the pans. Packed six 5-lbs. feeder-cans per case for easy handling.

For rush orders phone or wire collect. Fast delivery from our nearest warehouse.

Metropolitan Refining Co., Inc.
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☐ Please send me technical information and prices including quantity discounts.

☐ Please send details on how I can add these products to my present line. I am a ☐ Distributor ☐ Dealer ☐ Contractor ☐ Service Co. ☐ Other

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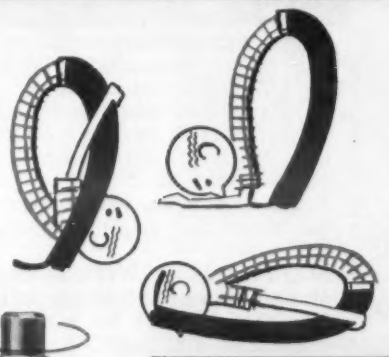
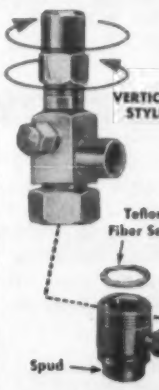


TWISTS OR TURNS IN ANY DIRECTION



PRIMORE'S *Exclusive* ROTALOCK VALVE

- Detachable
- Rotates a full 360°
- Locks in any position
- Reduces Inventory
- For Compressors - Receivers - Condensers
- New Teflon Fiber Seal

REFRIGERATION
designing
engineering
sales

Write for Primore's Illustrated Catalog

PRIMORE SALES, INC.
2460 South Main Street • Adrian, Mich.

Ratios of Products to Total Volume, 1949-1959

		1949 %	1957 %	1958 %	1959 %
1.	SD display cases, closed	7.3	2.1	2.5	2.9
2.	DD display cases, closed	15.3	3.2	2.4	2.3
	Total, this classification	22.6	5.3	4.9	5.2
3.	SD display cases, open SS	8.2	5.2	4.6	4.9
4.	DD display cases, open SS	17.6	9.8	9.9	9.8
5.	Multiple deck display cases, open SS	..	12.4	14.8	15.1
	Total, this classification	25.8	27.4	29.3	29.8
6.	All other display cases	1.6	.7	.4	.2
	Total, all above types	50.0	33.4	34.6	35.2
7.	SD vegetable cases, open SS	9.0	6.7	6.6	7.0
8.	DD vegetable cases, open SS	..	3.7	3.8	3.3
9.	Vegetable refrigerators, closed	.9	.8	.5	.5
	Total, this classification	9.9	11.2	.10.9	10.8
10.	Low temperature refrigerators, open SS	13.9	30.8	31.1	29.3
11.	Low temperature refrigerators, closed	.5	.5	.5	.5
	Total, this classification	14.4	31.3	31.6	29.8
12.	Upright freezers	..	2.4	1.7	1.5
13.	Dairy refrigerators, wall boxes, etc.	3.8	1.8	1.8	2.1
14.	Reach-in refrigerators	9.8	7.7	6.8	5.9
15.	Walk-in coolers	6.5	7.9	7.8	8.7
16.	All other C-R equipment	5.6	4.3	4.8	6.0
		100	100	100	100

* * *

Commercial Refrigeration--

(Concluded from Page 1, Col. 5)

in tabular form above) there were no great deviations from 1958, although some significance might be attached to a couple of the figures. Low temperature refrigerators showed a drop which put such equipment at less than 30% of the total for the first time in many years—the figure being 29.8% for 1959, compared with 31.6% in 1958.

Open-type multiple-deck display cases continued to show an increase, although somewhat less than in the preceding three years, the 1959 figure being 15.1%, compared with 14.8% in 1958 and 12.4% in 1957.

Reach-in refrigerators dropped to 5.9% from a 6.8% figure in 1958, while walk-in coolers increased to 8.7% from 7.8%. Upright freezers showed a slight decrease, and dairy refrigerators recorded a small upward trend. Most of the conventional refrigerated display case classifications registered little deviation from the 1958 ratios.

Westinghouse Names W. Nelson Abbott

COLUMBUS, Ohio—W. Nelson Abbott has been named merchandise manager of the Westinghouse room air conditioner department, it was announced by J. P. Moffitt, department manager.

W. N. Abbott

Abbott, who has been with Westinghouse most of the time since 1942, most recently was central regional sales representative for the department. He succeeds Moffitt in the post.

Worthington Picks Fraser

HARRISON, N. J.—Walther H. Feldmann, president of Worthington Corp., announced that the board of directors has elected A. William Fraser vice president and general sales manager.

Fraser was formerly general marketing manager. He joined Worthington in 1929 as a sales engineer.

Western Show Plans Announced--

(Concluded from Page 1, Col. 3)

Power, panel members.

April 27: 6:30 p.m. to 8 p.m. Symposium on "Fan Auxiliaries" with Ralph Phillips, Jr., consulting engineer with Ralph E. Phillips & Associates as chairman. Emmet Moylan, M. W. Sausse & Co. will present a paper on "Anti-Vibration"; a representative of Sterling Electric Motors will discuss "Evaluating Motors" and Glenn Fildes of Fabling Co. will speak on "Drive Selections."

April 28: 10:30 a.m. to 12 noon. Panel discussion on "Condensing Methods" with D. D. Wile, Recold Corp., moderating a panel discussion, the participants being John Engalitcheff, Balitimore Air Coil Co., Inc.; Harold Halls, Recold; and W. L. Holliday, Holliday & Westcott.

April 28: 2:30 p.m. to 4 p.m. Symposium on "Testing and Balancing" with William P. Tennity, Tennity & Co. as chairman. Robert Lambert, Air Factors, Inc., will speak on "Air Systems"; T. F. Scully, Heat & Power Equipment Co., on "Boilers"; and E. C. Williams, Airserco Mfg. Co., on "Refrigeration Systems."

April 28: 6:30 p.m. to 8 p.m. Panel discussion on "High Velocity Ducting" with Ray Hess of F. B. Gardner Co. as moderator.

April 29: 2:30 p.m. to 4 p.m. Temperature Control Clinic, with E. L. Nelson, Union Ice Co., as chairman, with representatives of Minneapolis-Honeywell Regulator Co.; Johnson Service Co.; Powers Regulator Co.; and Barber-Colman Co. participating.

April 29: 6:30 p.m. to 8 p.m. Symposium on "Piping" with Henry Ulovec of Mehring & Hanson Co. acting as moderator, with papers to be presented by a panel of authorities on piping yet to be selected.

April 30: 10:30 a.m. to noon (tentative). Specifications Clinic, with Chester D. Walz, consulting engineer, moderating the discussion between a contractor, a supplier, and an architect.

April 30: 2 p.m. to 3 p.m. "Lighting Loads in an Office Building" by Cary B. Gamble, Cary B. Gamble Associates.

April 30: 3 p.m. to 4 p.m. "Hospital Air Conditioning" by Arthur J. Hess.

Exhibit information, registration applications, and further details on the event may be obtained by addressing Fred J. Tabery, Western Air Conditioning Exhibit and Conference, 3443 S. Hill St., Los Angeles.

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POSITIONS WANTED

MECHANICAL ENGINEER with over 25 years in all phases of research, development, design, contracting, teaching, etc. in refrigeration and air conditioning wants responsible position in these fields. Would like to develop gas or oil fired heat pump inherently suited to northern climates for progressive manufacturer. BOX A6473, Air Conditioning, Heating & Refrigeration News.

GRADUATED MECHANICAL Engineer P. Eng. 30 years of age. 4 years' refrigeration experience 2 years as estimating, customer relations, calculations of all types industrial, commercial, marine equipment, etc. Knowledge of three languages. Interested in responsible position. Write to: BOX A6477, Air Conditioning, Heating & Refrigeration News.

REFRIGERATION AND air conditioning service or erection expert with 20 years' experience with York distributors desires change. Certified maintenance, inspector, service manager, expert on built up systems and large ammonia plants. Expert on controls, air balancing, and humidity control. Know the Freons as well as ammonia. Present travel territory all United States, wish to quit traveling. Would consider maintenance inspection or maintenance of refrigeration or air conditioning equipment of large industrial plant. Have been making $8,000.00 to $10,000.00 plus expenses. Will consider anywhere in U.S. if salary right and moving expenses included in deal. BOX A6478, Air Conditioning, Heating & Refrigeration News.

POSITIONS AVAILABLE

NORTHERN NEW YORK, including Rochester, Buffalo, Syracuse and Erie, Pennsylvania, manufacturer's rep needed for world's only direct fired 25 ton chiller to produce hot water for heating. Need MR with experience working with contractors and engineers, and who has knowledge of complimentary equipment required such as pumps, towers and air handling units. Write directly to: ARKLA AIR CONDITIONING CORPORATION, 3379 Fairhill Drive, Rocky River, Ohio, attention Mr. R. E. Lochner.

MANUFACTURERS' AGENTS wanted in several key trade areas to represent our complete line of air conditioning products. For information write NATIONAL-U.S. RADIATOR CORPORATION, Air Conditioning Division, Johnstown, Pennsylvania.

OPENING AT present time for a district manager with unlimited opportunity and earnings. Send complete resume to: Sales Department, SHERER-GILLETT COMPANY, Marshall, Michigan.

HEATING AND air conditioning salesman to work for a well established air conditioning contractor in Florida. Ten years' experience necessary. Earnings limited only to one's ability. Send resume and photo to BOX 6470, Air Conditioning, Heating & Refrigeration News.

SMALL MANUFACTURER of heat pumps (located in Los Angeles) has immediate opening for potential general manager. This position with a financially sound company represents a great challenge with commensurate salary opportunities. Write: BOX A6471, Air Conditioning, Heating & Refrigeration News.

REFRIGERATION ENGINEER. Desire system design engineer for refrigerators and freezers. Small aggressive company offering opportunity for growth and very pleasant working conditions. Write: BOX A6476, Air Conditioning, Heating & Refrigeration News.

ESTABLISHED VALVE manufacturing company desires salesman to travel Eastern area contacting industrial accounts and wholesalers. Late model car necessary. Salary plus commission plus expenses. Replies kept in strict confidence. Send full resume to: BOX A6480, Air Conditioning, Heating & Refrigeration News.

EQUIPMENT WANTED

WANTED: MANUFACTURERS surplus, outdated or obsolete refrigeration items—expansion & water & shut-off valves, controls, relays, dehydrators, units, tubing, fittings, etc. All sales on a cash closeout basis, large or small quantity. Write or call: COMMERCIAL CONTROLS CO., 257 East 3rd Street, New York 9, New York, ORegon 3-7210.

EQUIPMENT FOR SALE

CHILLED AND hot water or direct expansion extended surface coils: 5 T.-4R—4 sq.ft. face area $117.00; 7.5 T.-4R—6 sq.ft. face area $149.00; 10 T.-4R—8 sq.ft. face area $181.00; 15 T.-4R—12 sq.ft. face area $245.00; 20 T.-4R—16 sq.ft. face area $310.00; 25 T.-4R—20 sq.ft. face area $375.00; 30 T.-4R—24 sq.ft. face area $440.00; Capacity based upon 45°R.T. & 67°E.A. w.b. 500 fpm coil face velocity. Wire • write • call for quotations for any coil requirements, ARCTICAIRE MFG. CO., 2201 Grand Ave., Tel. BA. 1-7065, Kansas City 8, Mo.

CALCINATORS, MODEL GD and GS, new gas disposal units in original shipping containers, for sale to jobbers, contractors, or dealers in minimum quantities at very low price. Offers solicited for entire lot of 175 in one shipment. FRANK HARMONSON CO., P. O. Box 6096, Phoenix, Arizona.

DEALERS, DISTRIBUTORS, agents—Remote air cooled - air conditioning. Heat pumps that defrost without reversing without loss of efficiency (patent applied for). High quality, competitive pricing. Some territory in North, East, and far West open—dealers anywhere. NATIONAL THERMATIC CORPORATION, Division of JOHN FELTER COMPANY, P. O. Box 7464, Houston, Texas.

ELECTRIC WATER coolers, bottle type with refrigerated storage compartment, manufacturer's closeout due to model change. Tecumseh ⅙ h.p. unit, fan cooled condenser, stainless steel refrigerated compartment. Attractive, sturdy. Complete with five-year warranty on hermetically sealed refrigeration circuit. Will sell all or any portion of 49 at $118.00 each subject to prior sale. REMCOR PRODUCTS COMPANY, 321 E. Grand Avenue, Chicago 11, Illinois.

PARTS KITS available now for all Tecumseh hermetic compressors, ½ through 5 h.p. All fractional horsepower kits available after June 1st. Kits contain terminal assembly, valves, gaskets, internal mounts. Rod not included but available. Many distributor territories open. Contact — DAVID B. RUTHSTROM, 801 Rosine, Houston, Texas. Phone: JA 6-4028.

REFRIGERANT CYLINDER stands—now better and cheaper than ever. See your local wholesaler. If he does not have them in stock at present write SPENCER REFRIGERATION SERVICE, Martinsville, Virginia.

ATTENTION REFRIGERATION Servicemen: Send for catalog listing values in refrigeration and air conditioning parts, relays, capacitors, compressors. Savings up to 50%. WALTER W. STARR, 2833 Lincoln Ave., Chicago 13, Illinois.

THERMOSTATIC EXPANSION valve —Europe's best—½-1 ton F-12 now available stocked in U.S. Immediate delivery for manufacturers, contractors, territories open for representatives, wholesalers, 1 year guarantee, small efficient, reliable—priced under market. Write BOX A6479, Air Conditioning, Heating & Refrigeration News.

BUSINESS OPPORTUNITIES

OPPORTUNITY IN long established going air conditioning, refrigeration contracting, sales & service business for investment with services or complete ownership. Located in Southern California. Qualified inquiries will receive full information. Reply: BOX A6465, Air Conditioning, Heating & Refrigeration News.

THE MASTER SERVICE MANUALS - - -

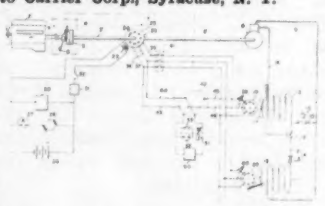
— — — and other books of the Refrigeration Library are depended upon as textbooks in trade schools from coast to coast.

BUSINESS NEWS PUBLISHING CO., DETROIT

PATENTS

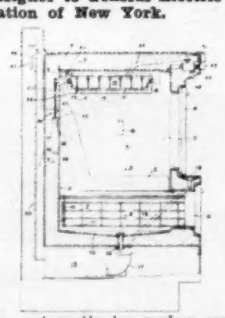
Week of Oct. 6 (Continued)

2,907,182. TRANSPORTATION REFRIGERATION SYSTEM. Henry W. Kuklinski, Mattydale, N. Y., assignor to Carrier Corp., Syracuse, N. Y.



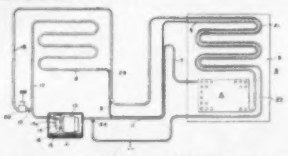
In a railway refrigerator car having a storage space, a refrigeration system comprising a compressor, a condenser, expansion means and an evaporator placed in a closed circuit, said evaporator being in heat exchange relation with said storage space, a condenser fan having a motor associated with said condenser to pass air in heat

2,907,183. AUTOMATIC ICE MAKER. Edward H. Roberts, Jeffersontown, Ky., assignor to General Electric Co., a corporation of New York.



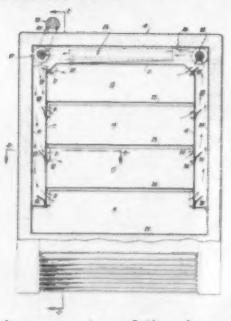
4. An automatic ice maker comprising a pivotally mounted freezing tray, a fixedly supported grid for partitioning said tray into a plurality of cells, said tray being movable about its pivot axis between a normal position in which said grid is disposed within said tray and a discharge position below and substantially to one side of said grid, cooling means in contact with said grid for freezing liquid in said tray. . . .

2,907,184. REFRIGERATING SYSTEM INCLUDING HOT GAS DEFROSTING CIRCUIT. Frank A. Schumacher, Louisville, Ky., assignor to General Electric Co., a corporation of New York.



1. A defrostable refrigerating system comprising an evaporator unit, a compressor, a condenser, and a capillary flow restrictor, conduit means connecting the compressor, condenser, capillary flow restrictor and evaporator unit in closed series-flow refrigerating circuit. . . .

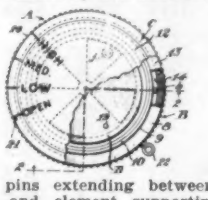
2,907,186. AIR CIRCULATION MEANS FOR UPRIGHT REFRIGERATED CABINETS. Louis F. Barroero, San Leandro, Calif.



1. An apparatus of the character described comprising a compartment having first and second end walls and a vertical front opening, each of said first and second end walls having a slot therethrough, means forming a closed duct exteriorly of said compartment from one slot to the other slot, blower means in said duct for blowing air into said compartment through said first end wall slot and for drawing air from said compartment through said second end wall slot. . . .

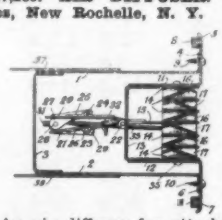
2,907,185. REFRIGERATOR. Timothy Isham, Los Angeles, Calif.

1. In a refrigerating device, a cylindrical housing having interconnected bottom and cap members enclosing a dead air space, said members being revoluble relative to each other; a cold holding and dispensing element in and surrounded by said dead air space,



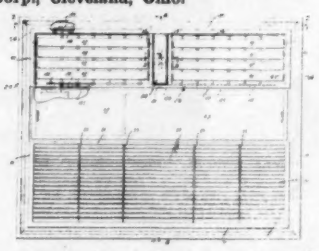
pointed pins extending between said housing and element supporting the latter within said housing. . . .

2,907,260. AIR DIFFUSER. Charles Davies, New Rochelle, N. Y.



1. An air diffuser for attachment to the outlet of an air duct, comprising a stack of relatively narrow corrugated strips arranged one above the other and having planar partitions between them, means for holding said strips together, and means for supporting said stack at said air duct outlet, each corrugated strip and the partitions alongside of it defining a layer of adjacent parallel air passages of appreciable lengths, the corrugations in each. . . .

2,907,262. AIR GUIDE STRUCTURE. James M. Sweedyk and Glen L. Gleason, Belding, Mich., assignors to Hupp Corp., Cleveland, Ohio.

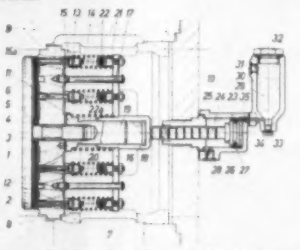


1. In a front panel for air conditioners and the like, an adjustable louver structure comprising a frame structure formed in said panel and surrounding a flow port, said frame structure including rearwardly projecting wall members, said wall members having rearwardly opening slots, a plurality of louvers having mounting pins projecting from their opposite ends rotatably supported in said slots, means for retaining said pins in said slots. . . .

2,907,318. HEAT EXCHANGE APPARATUS. Alfred E. Awot, Chicago, Ill.

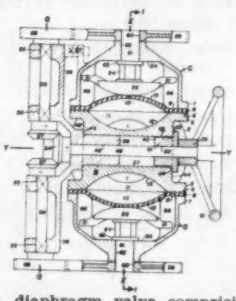
1. In a heat exchange unit, a relatively thin enclosing casing, a sheet with corrugations enclosed in said casing, the opposite projections contacting the upper and lower sides of the casing and the ends of the sheet contacting the ends of the casing to form with the casing parallel ducts on opposite sides of the sheet, each duct having an opening in the sheet at each end respectively connecting it with the adjoining ducts at the opposite sides of the sheet to form a continuous passageway in the casing having portions alternating from one side of the sheet to the other thereof. . . .

2,907,344. STEPLESS DELIVERY GOVERNORS FOR DISPLACEMENT COMPRESSORS. Herbert Sochting and Franz Sochting, Vienna, Austria, assignors to Hoerbiger & Co., Vienna, Austria.



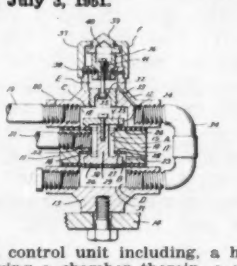
1. A device for the continuous control of the quantity delivered by reciprocating compressors, acting by delaying the closing of the intake valve, comprising a valve seat, a valve guard plate, a centering rod connecting the valve seat with the valve guard plate, a valve plate axially movable between said valve seat and said valve guard plate, a plurality of pins for lifting said valve plate and mutually and independently guided in said valve seat, control means for controlling said pins, springs connecting said pins with a common pressure plate above said valve seat, said pins being axially movable, guided and adjustable by said control means.

2,907,346. DIAPHRAGM VALVE. Ronald Fortune, Hamilton, Ont., Can., assignor of one-tenth to Edward H. Lang, Hinsdale, Ill.



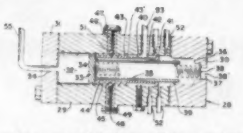
1. A diaphragm valve comprising a body portion having an inlet and an outlet passage of substantially equal cross sectional area and a flow control chamber positioned therebetween, said chamber having two openings spaced apart in equidistant relation from the center of said chamber and on opposite sides of the common axis of said chamber and passageways. . . .

2,907,347. CONTROL UNITS FOR PRESSURE-ACTUATED DEVICES. Asbury S. Parks, Houston, Texas. Continuation of application Serial No. 235,017, July 3, 1951.



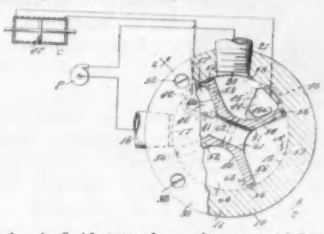
1. A control unit including, a housing having a chamber therein, a pressure fluid inlet extending to the chamber, an outlet line extending from the chamber, a restricted vent opening extending from said chamber, a valve assembly movable to two positions in said chamber, said valve assembly being movable solely by the pressures acting thereon. . . .

2,907,348. IMPROVED VALVE MEMBER. Karl M. Gerteis, Syracuse, N. Y., assignor to Carrier Corp., Syracuse, N. Y.



In valve mechanism for controlling flow of fluid from a main supply line to one or more service lines wherein operation of the valve is responsive to the action of a fluid source subject to pressure variations, the combination comprising a casing having a chamber therein. . . .

2,907,349. BALANCED ROTARY FOUR WAY VALVE. Howard T. White, Melrose Park, Pa.



1. A fluid transfer valve comprising a housing having a side wall with a central longitudinal opening and end closure walls for said opening, at least one of said end closure walls having a plurality of spaced longitudinal axial ports therethrough, said housing having in the side wall of said opening a plurality of spaced radial ports one of the radial ports being circumferentially intermediate said axial ports. . . .

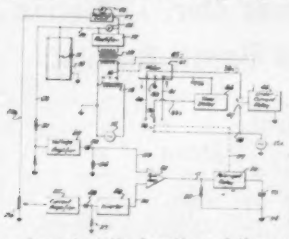
2,907,403. APPARATUS FOR CONTROLLING THE OPERATION OF ELECTRICAL PRECIPITATORS. Michael P. Foley, Los Angeles, Calif., assignor to Western Precipitation Corp., Los Angeles, Calif.

1. In an electrical precipitator in

Tech Center

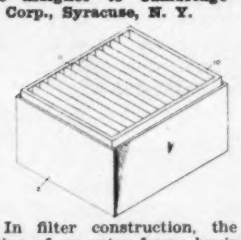
Tech Center by Frank J. Versagi has been omitted from this issue. The series, which is currently discussing "Applied Electrical Theory," will resume in the next issue.

which the average discharge current between opposing high voltage and grounded electrodes of the precipitator



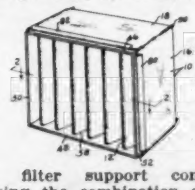
is a characteristic function of the average voltage across said electrodes, an

2,907,407. FILTER CONSTRUCTION. Paul M. Engle, Clay, N. Y., and John R. Swanton, Jr., Newton, Mass.; said Engle assignor to Cambridge Filter Mfg. Corp., Syracuse, N. Y.



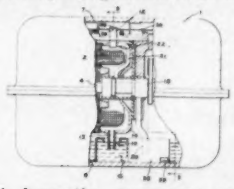
1. In filter construction, the combination of an outer frame having side walls defining two opposite open sides, a grid-like base member extending across one of the open sides from the walls of the frame, a plurality of supporting members mounted on the base member and extending within the frame to support filter medium. . . .

2,907,408. FILTER CONSTRUCTION. Paul M. Engle, Syracuse, N. Y., and John R. Swanton, Jr., Newton, Mass.; said Engle assignor to Cambridge Filter Mfg. Corp., Syracuse, N. Y.



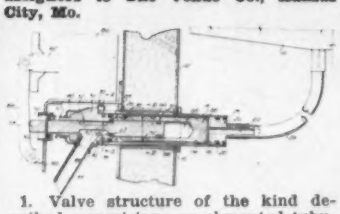
1. A filter support construction comprising the combination of a rectangular housing having top and bottom walls and end walls, all of rectangular configuration. . . .

2,907,515. OIL COOLING SYSTEM FOR COMPRESSORS. Peter E. Davey, Fern Creek, Ky., assignor to General Electric Co., a corporation of New York.



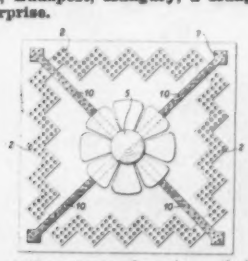
1. A hermetic compressor comprising a sealed casing having an oil sump at the bottom thereof, a horizontal axis motor-compressor unit spring-suspended within said casing above said sump; said unit including a cylindrical housing enclosing one end of motor. . . .

2,907,547. CARBONATED BEVERAGE DISPENSING VALVE. Le Roy D. Gore, Theodore L. Hanson, and Donald W. McBride, Kansas City, Mo., assignors to The Vendo Co., Kansas City, Mo.



1. Valve structure of the kind described comprising: an elongated tubular body having an opening at one end thereof, an inlet orifice at the other end thereof and an outlet orifice intermediate the ends thereof and adjacent said one end thereof. . . .

2,907,554. COOLING TOWER. Laszlo Heller, Budapest, Hungary, assignor to Licencia Talamanyokat Ertekesito Vallalat, Budapest, Hungary, a Hungarian enterprise.



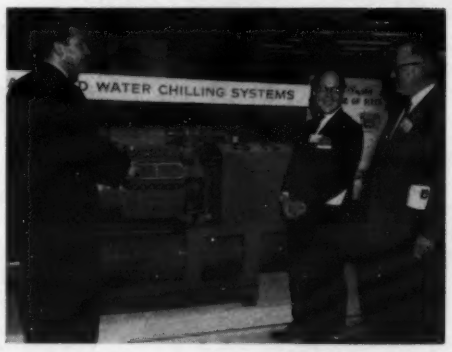
A cooling tower for air cooled condensation systems in steam power plants, comprising, in combination, a shaft in said tower for the passage of cooling air. . . .

New Products Highlight Southwest Exposition

MODEL OF A ceramic cooling tower catches the attention of Fred Sandmeyer of Kansas City (l.). He hears from Jack Hudson, chief draftsman for Ceramic Cooling Tower Co., and Craig Millis of Cowles & Co., (r.), representing Ceramic in north Texas, that the tower won't rot and will handle higher water temperatures than wood or metal towers.

BROAD ARRAY of new products was displayed by Trane, including a packaged water-to-air heat pump (in background) and a new "schoolroom ventilator" for heating and cooling which, as R. E. Lee (l.) and E. A. Cline (r.) of Trane try to show, is 4 in. thinner than conventional designs.

NEW CUSTOM-LINE high velocity electro-cell, plate type precipitator of 8,160 c.f.m. capacity is operated by Arthur Miller (r.), midwest regional sales manager for air filter products, American Air Filter Co., to Robert Moore, AAF assistant advertising manager.



40-TON PACKAGED water chiller complete with refrigerant charge was introduced by York Div., Borg-Warner Corp. George Briley, southwest regional manager for York (l.), points with pride for D. C. Kieffer of Dallas, and O. F. Erickson, president of the Mechanical Contractors Association of Dallas.

NEW FILTAIRE range hood ventilator exhibited by Morrison Products, Inc. is flanked by (l. to r.) Armand E. Proux, Phoenix, Ariz., plant manager and sales engineer for Morrison; Carl Yarborough, southwest representative for Morrison; and W. H. Tonner, Morrison sales engineer from Cleveland.

HAND VALVE for refrigerant cylinder introduced by Union Carbide at the Ansul Chemical booth arouses interest of Ed Ketchum (l.), Fort Worth contractor, as Neale Engberg (r.) of Ansul explains features.

It's so easy!

Get Sparkling Clear, Conditioned Water with KARLSONITE*

HALTS CORROSION and SCALE DEPOSITION

Prevents Rust Stains on Equipment

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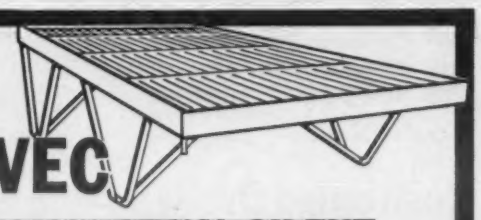

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UA Local 250--

(Concluded from Page 1, Col. 4)

arrangement contractors may expect to do certain incidental work with other union men. In many of the agreements between the international unions it is provided that each union will supply men to any contractor when the jurisdiction of part of the work involved belongs to members of that union. While this can often be expensive and wasteful for a particular contractor, yet if he can obtain the men from a union and the work is within the jurisdiction of that union, it is not impossible to live with.

Notes Inconsistency In Policy

"Some unions having jurisdiction over a portion of the refrigeration and air conditioning work have at times refused to furnish men or to sign a contract with the refrigeration or air conditioning contractor, sometimes on the grounds that the contractor isn't licensed in that particular trade and at other times they say they furnish men only to their own contractors.

"If the work involved is incidental or supplemental to the refrigeration or air conditioning work for which the contractor is licensed (under the California state contractor licensing law), there is nothing in the license law which prohibits the contractor using his own forces to do such work, regardless of the union that they belong to.

Cites Amended NLRA

"We are also of the opinion that under the National Labor Relations Act, as amended, if a union refuses either to supply men or sign a contract with a contractor, the union cannot take any economic action against that contractor.

"Refrigeration Fitters' Branch of Local 250 has taken the position that where a union refuses to furnish men to a contractor for work to be performed within the jurisdiction of that union, which is incidental to refrigeration or air conditioning, it will not recognize the jurisdictional claims of that union, and, if necessary, permit the work to be performed by their own men."

'Contracting Out'--

(Concluded from Page 1, Col. 5)

Reuther asserted.

The argument got hotter when the building trades union agreed to work with the construction industry in persuading the operators of industrial plants to use outside contractors for repair and maintenance work.

This was regarded as an act of war by the industrial unions, who claim this work belongs to them.

Fireworks really erupted when Reuther and other leaders of the old CIO learned that James R. Hoffa, Teamsters president, had joined with the heads of the 18 building unions in signing maintenance agreements in at least one large industrial enterprise.

Speaking at an Executive Council session, Reuther said he felt such joint agreements violated the federation's prohibition against alliances between its unions and expelled organizations. He also claimed that the craft groups had "reneged" on every commitment to avoid raids on the industrial unions.

Reuther was supported by Steelworkers' President David J. McDonald who accused the construction unions of "scabbing" on the industrial unions.

Schoemann Threatens To Resign Post

Schoemann threatened to resign from his post in the Industrial Union Dept. after Reuther asked him to leave a strategy session of the department's executive committee. Schoemann left. He explained later that he didn't want to remain a vice president of a group in which he was treated as an outsider.

AFL-CIO President George Meany reprimanded both sides in the dispute, the building trades union for not being more "diplomatic" in announcing their compact with the employers and the industrial unions for "making so much noise about an internal problem that should be settled privately."

Meany Sees No Harm By Efforts Yet

Meany told the Executive Council he felt the building trades unions were wrong in joining with their employers in a drive to sell maintenance contracts to industrial plants. He indicated he thought the industrial unions had not yet been hurt by the efforts of the construction unions to dislodge them in the maintenance field.

It was not immediately clear if the AFL-CIO would try to make the building trades unions stop signing joint national agreements with the Teamsters Union.

After one meeting, Reuther said the industrial unions were standing behind the decision made at the AFL-CIO convention in San Francisco last September to settle all such rows through final and binding arbitration, but that the building trades were not.

Schoemann said the construction unions did not want to do anything that would lead to a breakup of the AFL-CIO. But he stressed that he saw nothing wrong with the agreements on contract maintenance and that he did not believe all disputes were susceptible to arbitration.

Meany asked a special committee, which got nowhere at these meetings in its search for peace formulas, to try again. The committee will work with the executive committee of the federation to produce a new plan for the next council meeting in May.

Washington, D.C. ASHRAE Plans Mar. 1 Meeting On Electric Heating

WASHINGTON, D. C. — A meeting on electric heat has been scheduled for March 1 by the National Chapter here of the American Society of Heating, Refrigerating & Air-Conditioning Engineers.

Speakers are Charles R. Minors, commercial sales engineer with Georgia Power Co., Atlanta, who will tell of the extensive use of electric heat in a shopping center, and Benjamin Elliott, architect and president of the local AIA chapter, who used electric heat in a school addition.

The meeting will be held at the Continental hotel, with dinner at 7 p.m. and the meeting at 8 p.m., according to the association.

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The McQuay Horizontal Air Flow Residential Evaporator is available in 2, 3, 4, 5 and 7½ tons nominal capacities. It is designed for mounting in horizontal duct work of warm air furnace systems, and is extremely compact and thoroughly insulated with fiber glass. A service panel and space for internal valve mounting is provided. Drain pan for collection of coil condensate is standard equipment.

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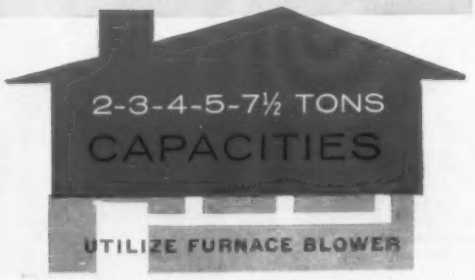
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